



# **SOMATOM go.Up**

## **Clinical Cases**

International version. Not for distribution or use in the U.S.

[siemens.com/somatom-go-up](https://siemens.com/somatom-go-up)

**SIEMENS**  
**Healthineers** 







# SOMATOM go.Up

## Expand your successful CT business

In CT imaging today, it is not just about providing answers to patients but also about running a business. This means that healthcare providers have to differentiate themselves in an intensely competitive market.

We developed the SOMATOM® go. platform to help you achieve daily success. As a member of this family, SOMATOM® go.Up comes with technology that is completely new to scanners of its kind. It makes advanced procedures available for daily practice. In addition, it includes an innovative workplace design and an entirely redesigned service model to reduce costs.

Among other things, SOMATOM go.Up opens up the field of preventive care for your routine operations. Making high-quality care accessible, it allows you to stay competitive and keep an eye on profitability. Profit from advanced clinical results and expand your successful CT business.

SOMATOM go.Up takes you beyond routine. Enhance your portfolio, enter the fields of preventive care and RT planning – and substantially expand the services you can offer your patients. Equipped with premium technologies, SOMATOM go.Up enables, for example, cardiac assessment via calcium scoring examinations.





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# Lung Imaging

**Collimation:**

32 x 0.7 mm

**Scan time:**

9 s

**Scan length:**

396 mm

**Rotation time:**

0.8 s

**Pitch factor:**

1.5

**Scan parameters:**

Sn110 kV / 75 mAs

**CTDI<sub>vol</sub>:**

0.44 mGy

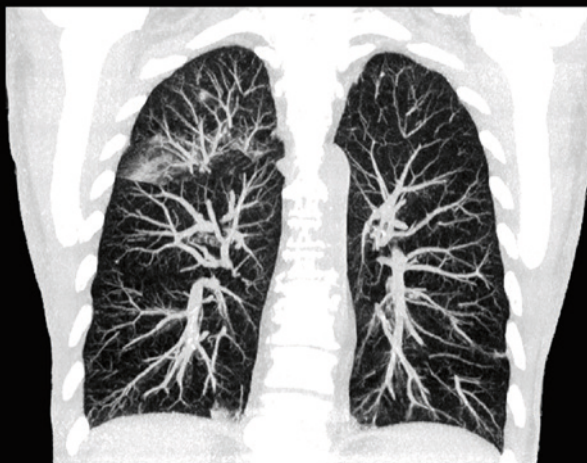
**DLP:**

16.4 mGy cm

- Stretch the limits of low-dose scanning with Tin Filter technology
- Optimized X-ray spectral shaping for improved dose efficiency
- Automatic segmentation of solid and subsolid nodules with CT View&GO<sup>1</sup>

# Lung Imaging

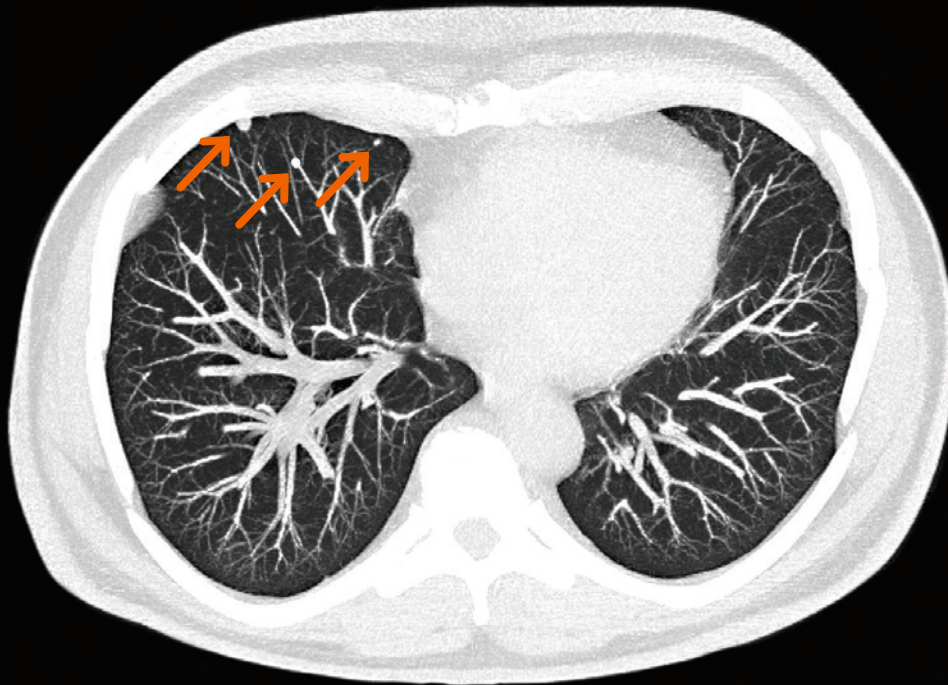
Diameter: 9.3 mm  
Mean Diameter: 6.3 mm  
Volume: 0.126 ml  
WHOArea: 36.6 mm<sup>2</sup>



2 mm slice thickness

*Courtesy of Centro Hospitalar de São João, Porto, Portugal*

# Lung Imaging



Thick-slice MIP  
1 mm slice thickness

**Collimation:**  
32 x 0.7 mm

**Scan time:**  
13 s

**Scan length:**  
398 mm

**Rotation time:**  
0.8 s

**Pitch factor:**  
1

**Scan parameters:**  
Sn110 kV / 100 mAs

**CTDI<sub>vol</sub>:**  
1.28 mGy

**DLP:**  
47.7 mGy cm

- Improved image quality at the interface of air to soft tissue
- Beat your competition with lung imaging powered by Tin Filter technology

**Collimation:**

32 x 0.7 mm

**Scan time:**

13 s

**Scan length:**

398 mm

**Rotation time:**

0.8 s

**Pitch factor:**

1

**Scan parameters:**

Sn110 kV / 100 mAs

**CTDI<sub>vol</sub>:**

1.28 mGy

**DLP:**

47.7 mGy cm

- Excellent visualization of lung tissue
- Outstanding low-dose protocol
- Improved image quality at the interface of air to soft tissue

# Lung Imaging



1 mm slice thickness

*Courtesy of Erlangen University Hospital, Erlangen, Germany*

# Lung Imaging



2 mm slice thickness  
coronal MPR

**Collimation:**  
32 x 0.7 mm

**Scan time:**  
8 s

**Scan length:**  
344 mm

**Rotation time:**  
0.8 s

**Pitch factor:**  
1.4

**Scan parameters:**  
Sn110 kV / 128 mAs

**CTDI<sub>vol</sub>:**  
1.02 mGy

**DLP:**  
32.7 mGy cm

- Excellent visualization of lung nodules
- Optimized X-ray spectral shaping for improved dose efficiency with the Tin Filter
- Obese patient

# Lung Imaging

**Collimation:**

32 x 0.7 mm

**Scan time:**

6 s

**Scan length:**

285 mm

**Rotation time:**

0.8 s

**Pitch factor:**

1.5

**Scan parameters:**

110 kV / 156 mAs

**CTDI<sub>vol</sub>:**

4.78 mGy

**DLP:**

125 mGy cm

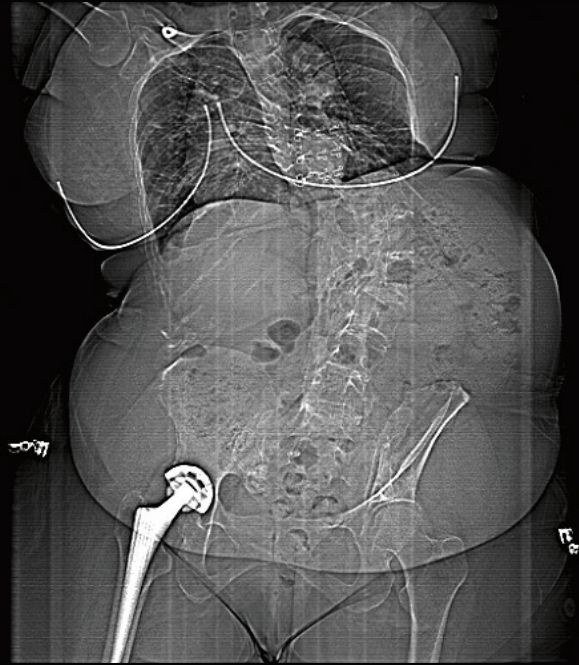
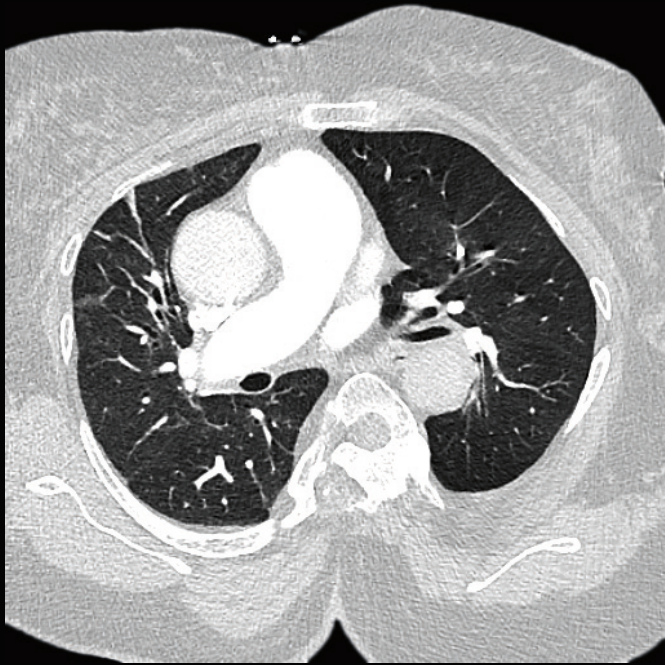
0.8 mm slice thickness

- Rule-out of pulmonary embolism
- Severe scoliosis
- Obese patient
- Test bolus application for CTA planning



Oblique MPR

*Courtesy of Erlangen University Hospital, Erlangen, Germany*



Topogram



# Pelvic Imaging

**Collimation:**  
32 x 0.7 mm

**Scan time:**  
13 s

**Scan length:**  
321 mm

**Rotation time:**  
0.8 s

**Pitch factor:**  
0.8

**Scan parameters:**  
130 kV / 98 mAs

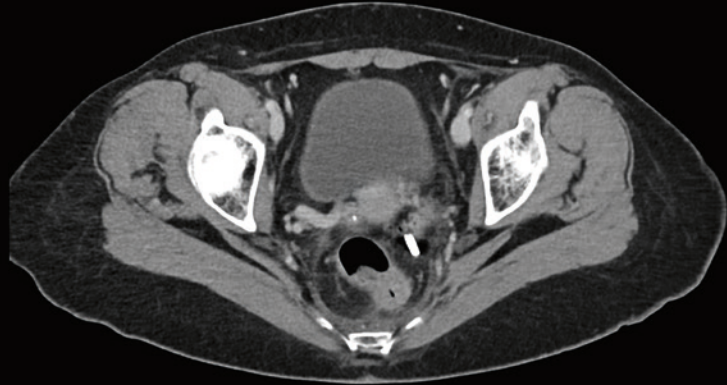
**CTDI<sub>vol</sub>:**  
9.78 mGy

**DLP:**  
290 mGy cm

3 mm slice thickness

- Follow-up examination
- High image quality even in challenging body regions like pelvic area

# Pelvic Imaging



*Courtesy of Erlangen University Hospital, Erlangen, Germany*



Sagittal MPR



# **Abdominal and Whole-Body Imaging**

**Collimation:**

32 x 0.7 mm

**Scan time:**

13 s

**Scan length:**

318 mm

**Rotation time:**

0.8 s

**Pitch factor:**

0.8

**Scan parameters:**

130 kV / 98 mAs

**CTDI<sub>vol</sub>:**

10.31 mGy

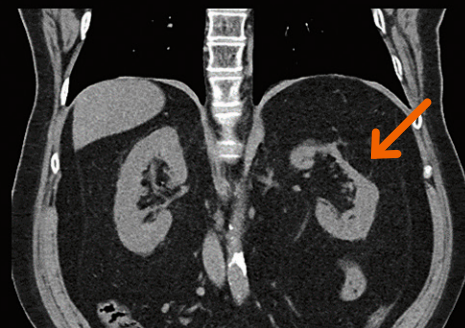
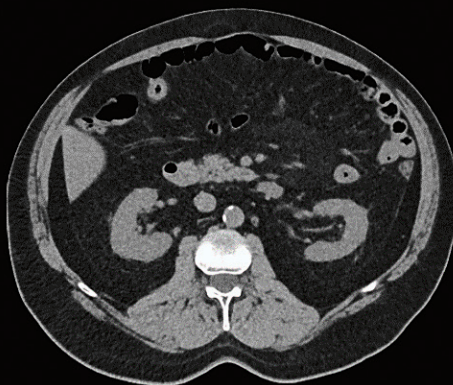
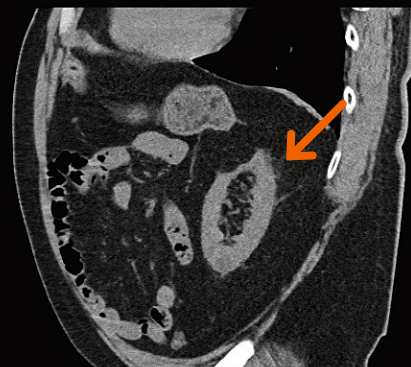
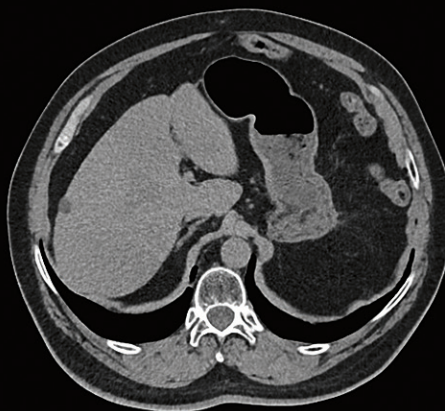
**DLP:**

303 mGy cm

3 mm slice thickness

- Obese patient
- Excellent dose efficiency enabled by Stellar detector technology
- Impaired left kidney

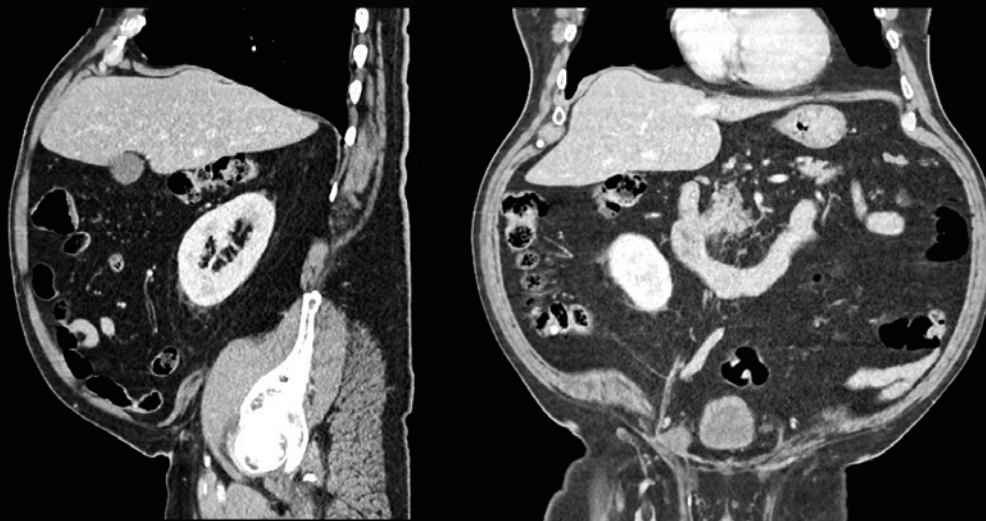
## Abdominal and Whole-Body Imaging



Sagittal and coronal oblique MPR

Courtesy of Erlangen University Hospital, Erlangen, Germany

# Abdominal and Whole-Body Imaging



**Collimation:**  
32 x 0.7 mm

**Scan time:**  
19 s

**Scan length:**  
446 mm

**Rotation time:**  
0.8 s

**Pitch factor:**  
0.8

**Scan parameters:**  
130 kV / 98 mAs

**CTDI<sub>vol</sub>:**  
15.36 mGy

**DLP:**  
489 mGy cm

- Adaptive Signal Boost amplifies low signal areas when high attenuation is present (obese patients)
- Automated tube current adjustment for optimum diagnostic image quality at lowest possible dose, enabled by CARE Dose4D™ depending on patient size and anatomy.

**Collimation:**

32 x 0.7 mm

**Scan time:**

22 s

**Scan length:**

494 mm

**Rotation time:**

0.8 s

**Pitch factor:**

0.8

**Scan parameters:**

130 kV / 98 mAs

**CTDI<sub>vol</sub>:**

7.95 mGy

**DLP:**

373 mGy cm

3 mm slice thickness

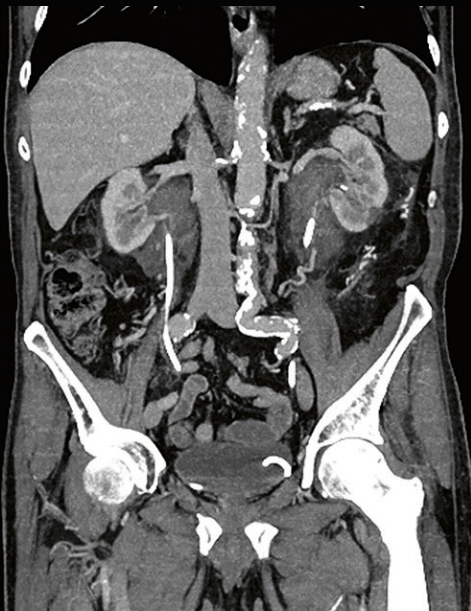
- Excellent dose efficiency enabled by Stellar detector technology
- Evaluation of bowel, e.g. rule-out of perforation

## Abdominal and Whole-Body Imaging

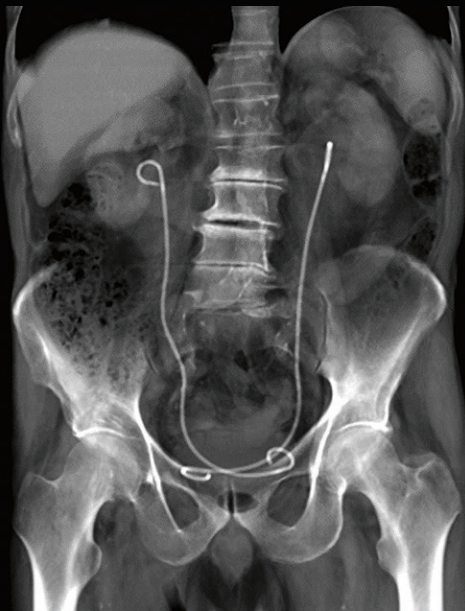


*Courtesy of Erlangen University Hospital, Erlangen, Germany*

# Abdominal and Whole-Body Imaging



Sagittal and coronal oblique MPR



Thick-slice MIP  
demonstrating catheter placement

**Collimation:**  
32 x 0.7 mm

**Scan time:**  
23 s

**Scan length:**  
526 mm

**Rotation time:**  
0.8 s

**Pitch factor:**  
0.8

**Scan parameters:**  
130 kV / 98 mAs

**CTDI<sub>vol</sub>:**  
7.31 mGy

**DLP:**  
366 mGy cm  
3 mm slice thickness

- Follow-up scan  
for double-pigtail  
catheter placement

# Abdominal and Whole-Body Imaging

## Collimation:

32 x 0.7 mm (each phase)

## Scan time:

16 s (thorax)

21 s (abdomen)

## Scan length:

392 mm (thorax)

502 mm (abdomen)

## Rotation time:

0.8 s (each phase)

## Pitch factor:

0.8 (each phase)

## Scan parameters:

130 kV / 58 mAs (thorax)

130 kV / 98 mAs (abdomen)

## CTDI<sub>vol</sub>:

5.37 mGy (thorax)

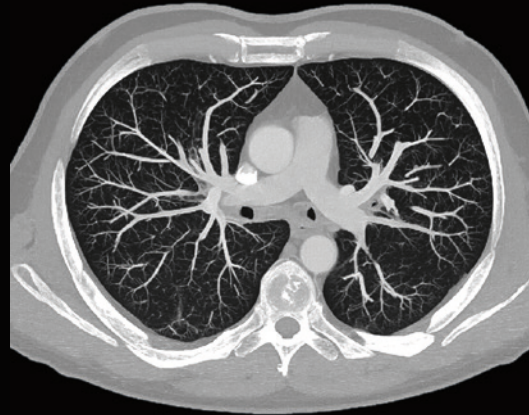
10.5 mGy (abdomen)

## DLP:

197 mGy cm (thorax)

502 mGy cm (abdomen)

- Follow-up after partial liver resection
- Multi-step CT protocol



*Courtesy of Erlangen University Hospital, Erlangen, Germany*



3 mm MPR

**Collimation:**

32 x 0.7 mm

**Scan time:**

16 s

**Scan length:**

390 mm

**Rotation time:**

0.8 s

**Pitch factor:**

0.8

**Scan parameters:**

130 kV / 54 mAs (thorax)

**CTDI<sub>vol</sub>:**

4.3 mGy

**DLP:**

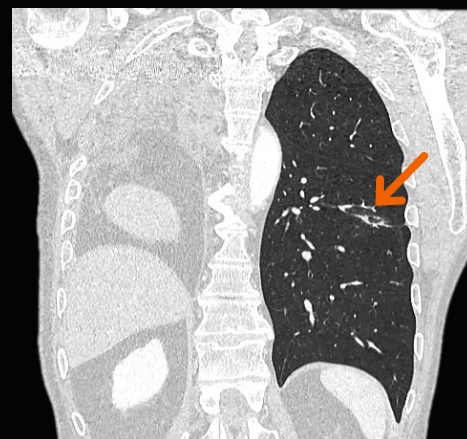
157 mGy cm

- Resection of right lung
- Scar tissue in left lung well delineated
- High image quality even in challenging body regions like lung apex

# Abdominal and Whole-Body Imaging



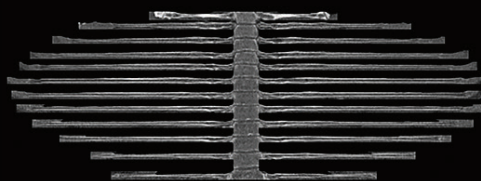
Coronal MPR  
3 mm



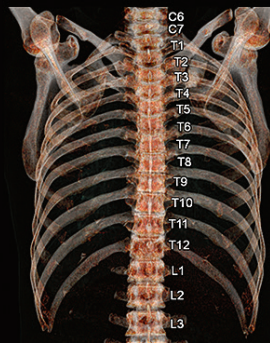
Coronal MPR  
1 mm

*Courtesy of Erlangen University Hospital, Erlangen, Germany*

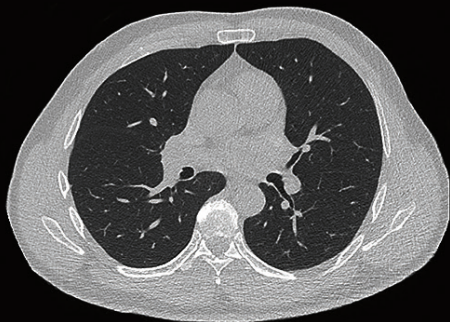
# Abdominal and Whole-Body Imaging



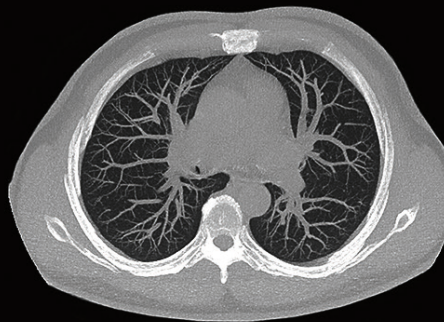
Inline rib unfolding



Inline spine labeling



1 mm MPR



Thick slice MPR

**Collimation:**  
32 x 0.7 mm

**Scan time:**  
13 s

**Scan length:**  
398 mm

**Rotation time:**  
0.8 s

**Pitch factor:**  
1

**Scan parameters:**  
110 kV / 100 mAs

**CTDI<sub>vol</sub>:**  
1.28 mGy

**DLP:**  
47.7 mGy cm

- Rule-out of fractures
- Inline rib unfolding and labeling of the vertebrae

**Collimation:**

32 x 0.7 mm

**Scan time:**

17 s

**Scan length:**

396 mm

**Rotation time:**

0.8 s

**Pitch factor:**

0.8

**Scan parameters:**

130 kV / 54 mAs (thorax)

**CTDI<sub>vol</sub>:**

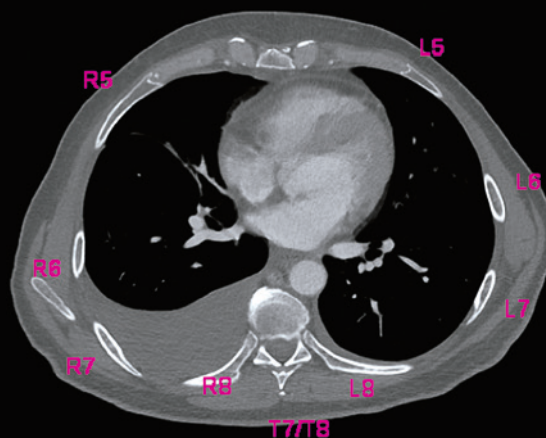
4.19 mGy

**DLP:**

156 mGy cm

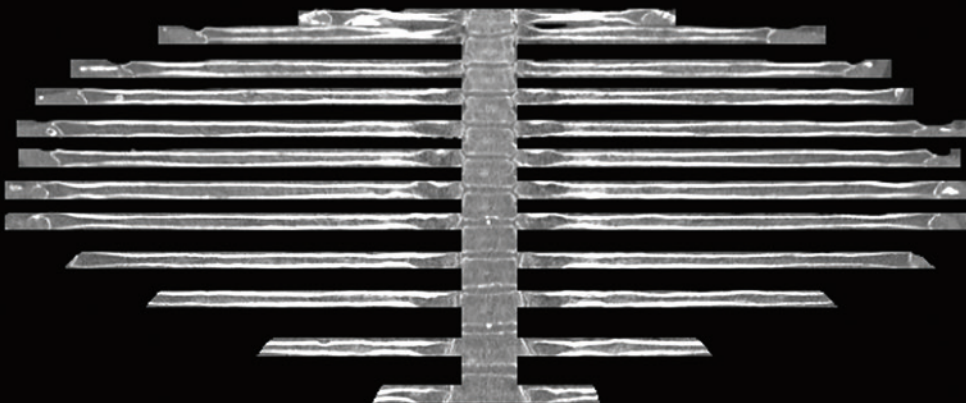
- Recon&GO streamlines reading workflow by providing ready-to-read images
- 3-plane simultaneous labeling of spine and ribs

# Abdominal and Whole-Body Imaging



*Courtesy of Erlangen University Hospital, Erlangen, Germany*

# Abdominal and Whole-Body Imaging



**Collimation:**

32 x 0.7 mm

**Scan time:**

17 s

**Scan length:**

396 mm

**Rotation time:**

0.8 s

**Pitch factor:**

0.8

**Scan parameters:**

130 kV / 54 mAs

**CTDI<sub>vol</sub>:**

4.19 mGy

**DLP:**

156 mGy cm

- Inline rib unfolding feature helps radiologists identify fractures and nodules more easily
- Single thorax dataset concurrently used for lung and rib evaluation saves dose

**Collimation:**  
32 x 0.7 mm

**Scan time:**  
22 s

**Scan length:**  
519 mm

**Rotation time:**  
0.8 s

**Pitch factor:**  
0.8

**Scan parameters:**  
130 kV / 98 mAs

**CTDI<sub>vol</sub>:**  
7.09 mGy

**DLP:**  
380 mGy cm

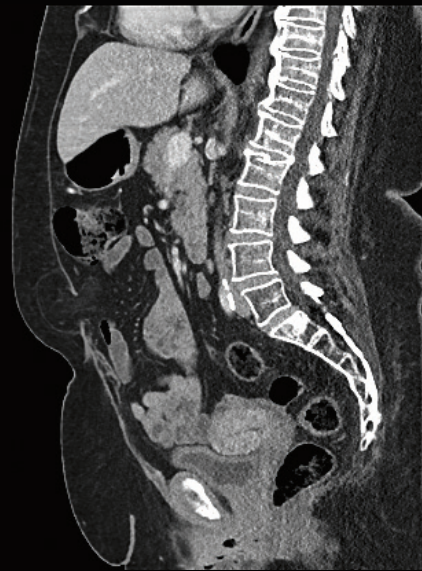
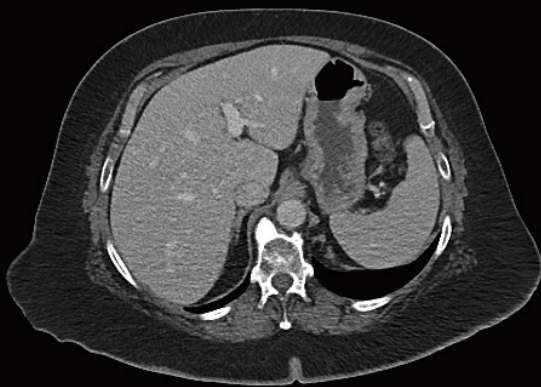
- Obese patient
- BMI 37
- CT View&GO allows you to evaluate and display tissue densities within a certain HU range (e.g. fat quantification)

# Abdominal and Whole-Body Imaging

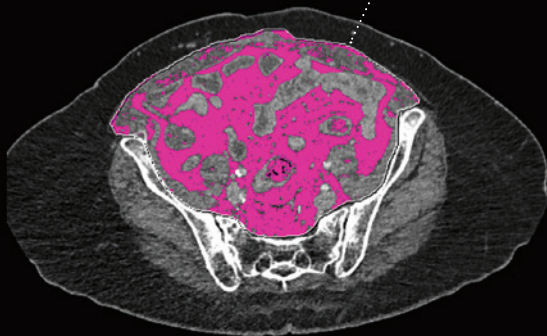


Axial sagittal and coronal 3 mm MPR

*Courtesy of Erlangen University Hospital, Erlangen, Germany*



Min / Max: -200 HU/-30 HU  
 Mean/SD: -83 HU/28 HU  
 Area: 141.60 cm<sup>2</sup>  
 Thresholds: -200 HU/-30 HU





# **Imaging in Presence of Implants**

**Collimation:**

32 x 0.7 mm

**Scan time:**

22 s

**Scan length:**

524 mm

**Rotation time:**

0.8 s

**Pitch factor:**

0.8

**Scan parameters:**

130 kV / 98 mAs

**CTDI<sub>vol</sub>:**

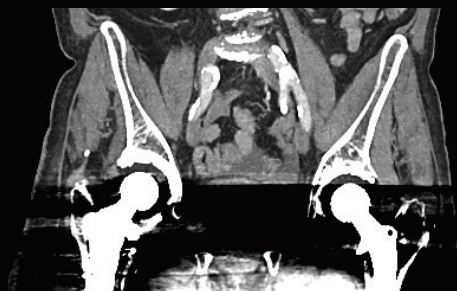
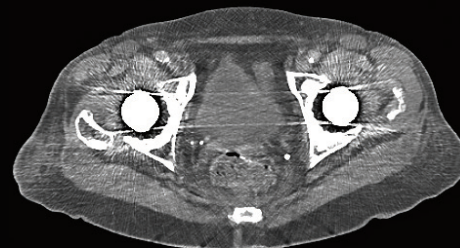
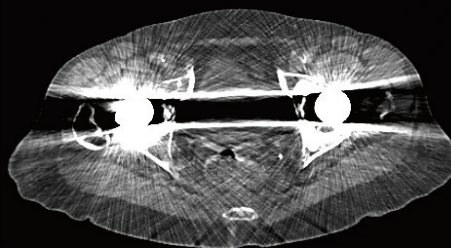
7.74 mGy

**DLP:**

386 mGy cm

- Staging examination
- Nondiagnostic images in case of metal artifacts in the small pelvis area
- iMAR reduces metal artifacts for higher image quality

# Imaging in Presence of Implants



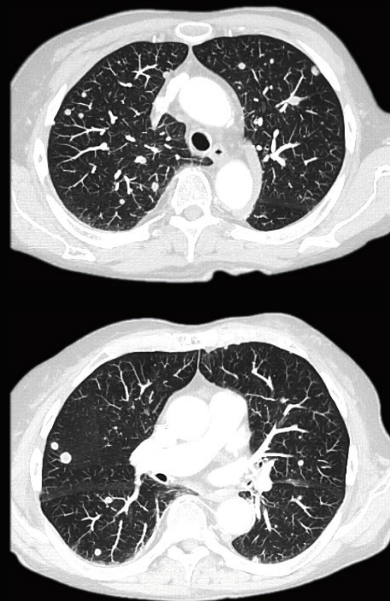
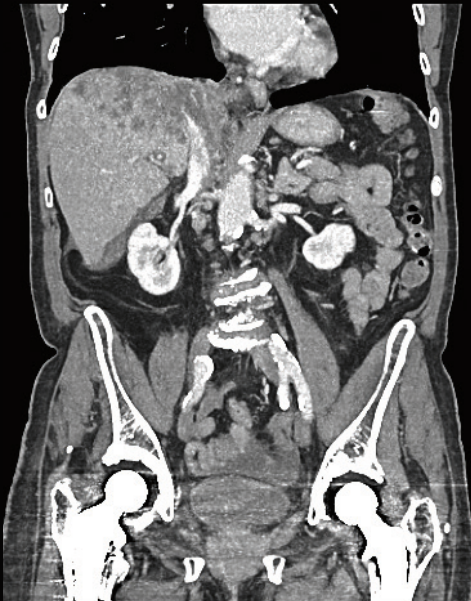
Without iMAR



With iMAR

*Courtesy of Erlangen University Hospital, Erlangen, Germany*

# Imaging in Presence of Implants



**Collimation:**  
32 x 0.7 mm (each phase)

**Scan time:**  
16 s (thorax)  
22 s (abdomen)

**Scan length:**  
389 mm (thorax)  
524 mm (abdomen)

**Rotation time:**  
0.8 s (each phase)

**Pitch factor:**  
0.8 (each phase)

**Scan parameters:**  
130 kV / 54 mAs (thorax)  
130 kV / 98 mAs (abdomen)

**CTDI<sub>vol</sub>:**  
4.73 mGy (thorax)  
7.74 mGy (abdomen)

**DLP:**  
173 mGy cm

- Staging examination
- Advanced metastatic disease



# CT Angiography

**Collimation:**

32 x 0.7 mm

**Scan time:**

10 s

**Scan length:**

452 mm

**Rotation time:**

0.8 s

**Pitch factor:**

1.5

**Scan parameters:**

80 kV / 375 mAs

**CTDI<sub>vol</sub>:**

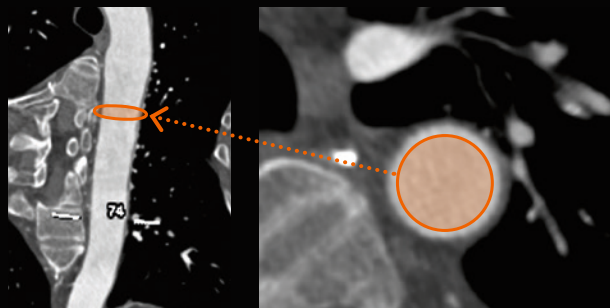
3.45 mGy

**DLP:**

147 mGy cm

- High Power 80 for improved iodine contrast
- VRT inline results with CT View&GO
- Potential reduction of required contrast media dosage
- FAST ROI automatically identifies regions of interest and calculates HU for the aorta in bolus-tracking examinations

# CT Angiography



Courtesy of Erlangen University Hospital, Erlangen, Germany

# CT Angiography



**Collimation:**  
32 x 0.7 mm

**Scan time:**  
32 s

**Scan length:**  
934 mm

**Rotation time:**  
0.8 s

**Pitch factor:**  
1.5

**Scan parameters:**  
80 kV

**CTDI<sub>vol</sub>:**  
7.2 mGy

**DLP:**  
642 mGy cm

- Fine visualization of peripheral vessels
- Postprocessing angio tools at hand thanks to CT View&GO

**Collimation:**  
32 x 0.7 mm

**Scan time:**  
27 s

**Scan length:**  
607 mm

**Rotation time:**  
0.8 s

**Pitch factor:**  
1.5

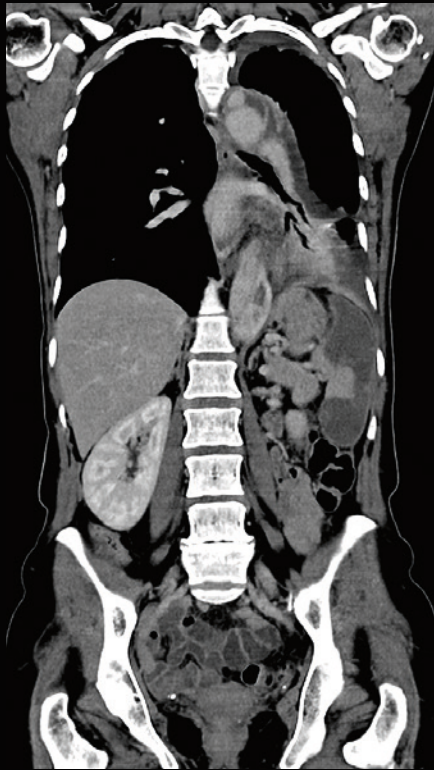
**Scan parameters:**  
130 kV

- Aortic dissection
- Perfusion deficiency  
left kidney; perfused  
false lumen, thrombus
- Get the timing right  
with the new timeline

# CT Angiography



*Courtesy of Erlangen University Hospital, Erlangen, Germany*



3 mm MPR shown



# Head Imaging

**Collimation:**

32 x 0.7 mm

**Scan time:**

13 s

**Scan length:**

180 mm

**Rotation time:**

1.0 s

**Pitch factor:**

0.55

**Scan parameters:**

130 kV / 104 mAs

**CTDI<sub>vol</sub>:**

44.4 mGy

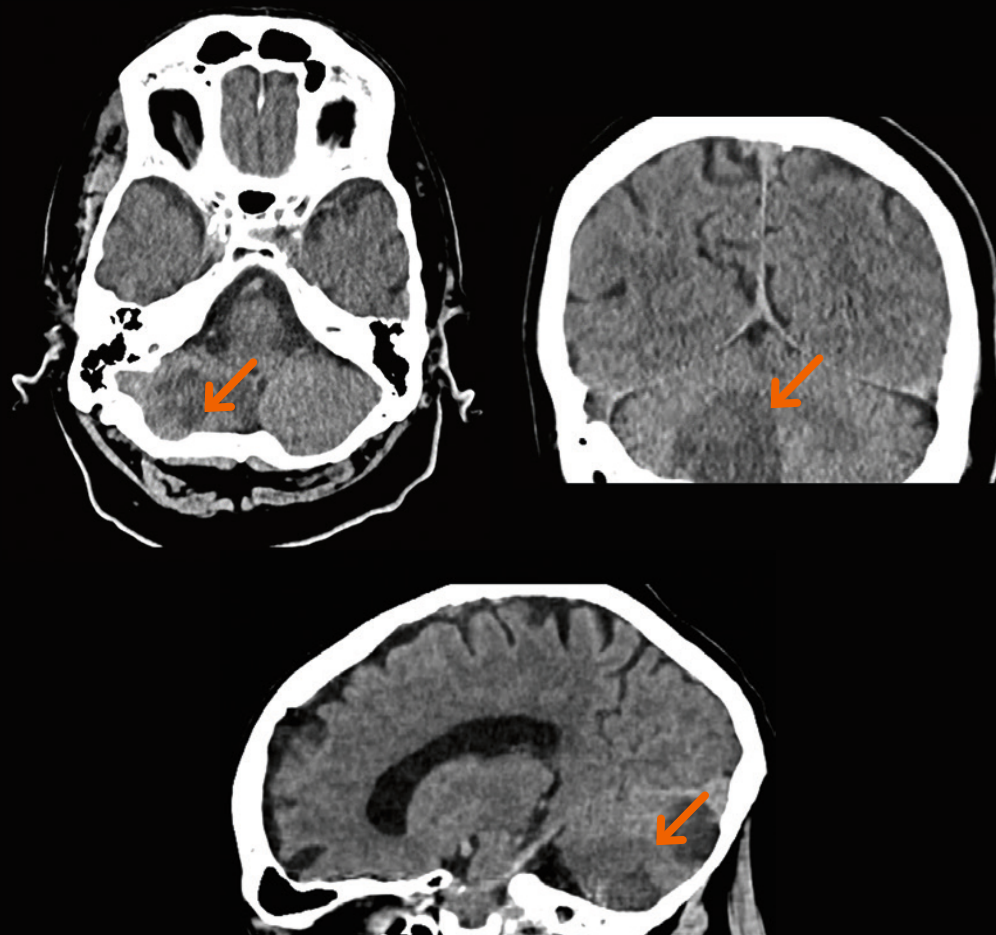
**DLP:**

691 mGy cm

3 mm slice thickness

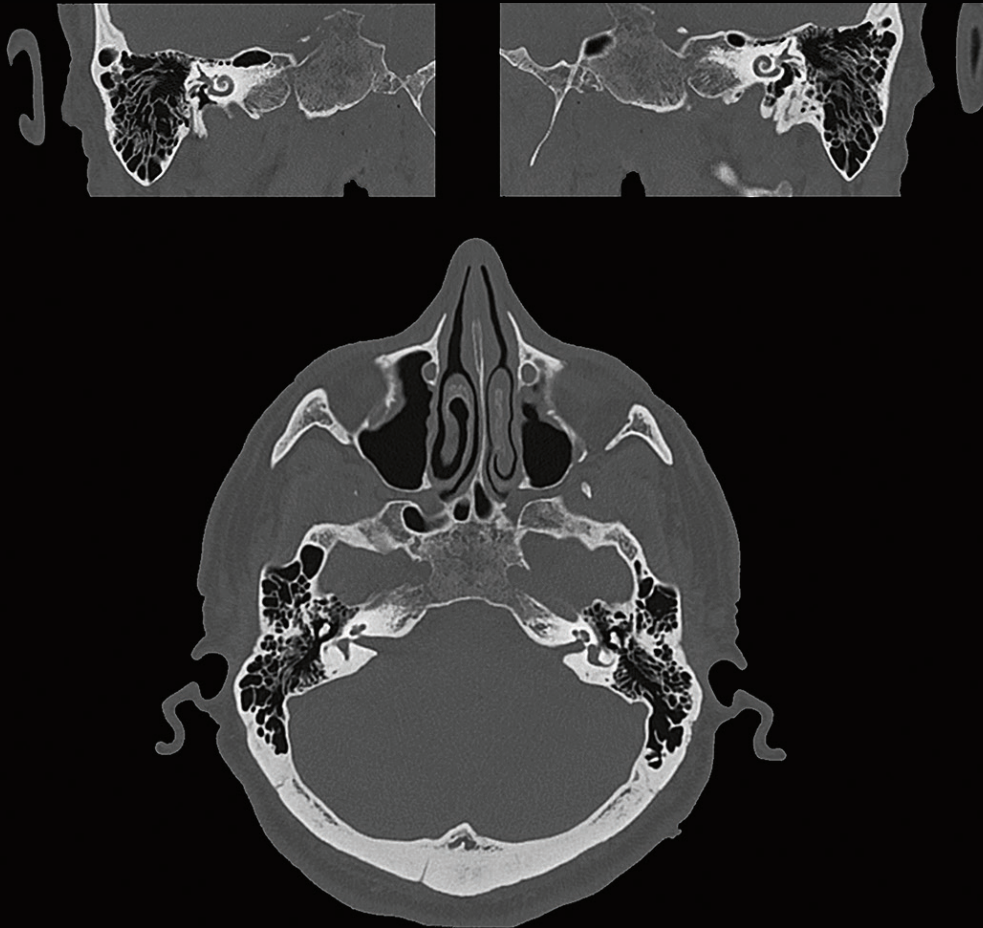
- High contrast of brain structures
- Excellent gray/white matter differentiation
- Follow-up of stroke patient

## Head Imaging



*Courtesy of Erlangen University Hospital, Erlangen, Germany*

# Head Imaging



**Collimation:**  
32 x 0.7 mm

**Scan time:**  
8 s

**Scan length:**  
117 mm

**Rotation time:**  
1 s

**Pitch factor:**  
0.55

**Scan parameters:**  
130 kV / 58 mAs

**CTDI<sub>vol</sub>:**  
33.1 mGy

**DLP:**  
306 mGy cm

- 0.6 mm reconstructions due to Stellar detector technology

**Collimation:**

32 x 0.7 mm

**Scan time:**

11 s

**Scan length:**

161 mm

**Rotation time:**

1.0 s

**Pitch factor:**

0.55

**Scan parameters:**

Sn110 kV / 28 mAs

**CTDI<sub>vol</sub>:**

1.34 mGy

**DLP:**

18.28 mGy cm

- Tin Filter technology for exceptional low-dose performance with high contrast
- Detailed visualization of fine bone structures with minimum slice thickness of 0.6 mm

# Head Imaging



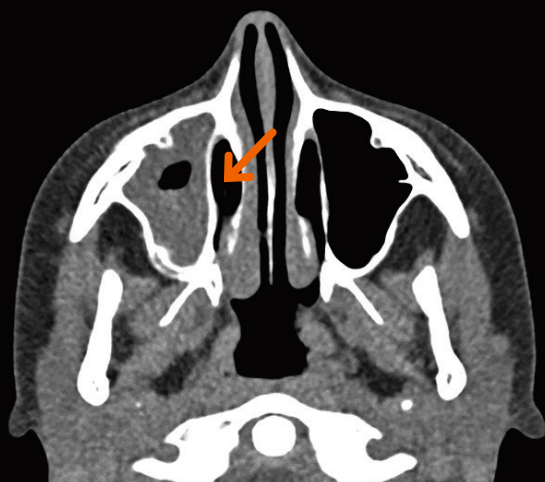
0.6 mm reconstruction



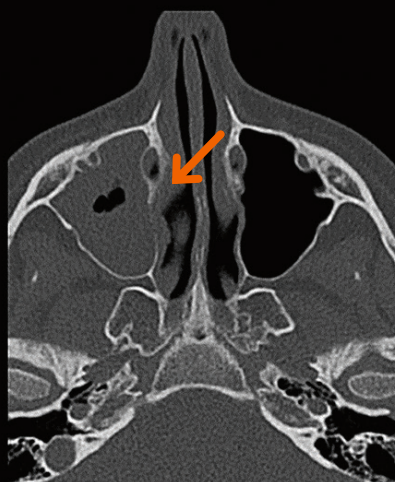
0.8 mm reconstruction

*Courtesy of Erlangen University Hospital, Erlangen, Germany*

# Head Imaging



1 mm slice thickness MPR



3 mm slice thickness MPR

**Collimation:**  
32 x 0.7 mm

**Scan time:**  
10 s

**Scan length:**  
143 mm

**Rotation time:**  
1.0 s

**Pitch factor:**  
0.55

**Scan parameters:**  
Sn110 kV / 94 mAs

**CTDI<sub>vol</sub>:**  
2.58 mGy

**DLP:**  
30 mGy cm

- Low-dose protocol
- Tin Filter technology for exceptional low-dose performance with high contrast
- Detailed visualization of bone structures and swelling of soft tissue

# Head Imaging

**Collimation:**

32 x 0.7 mm

**Scan time:**

15 s

**Scan length:**

214 mm

**Rotation time:**

1.0 s

**Pitch factor:**

0.55

**Scan parameters:**

130 kV / 104 mAs

**CTDI<sub>vol</sub>:**

41.2 mGy

**DLP:**

779 mGy cm

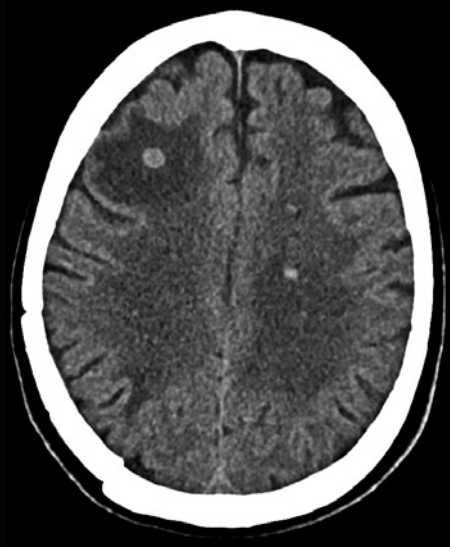
- Visualization of aneurysm



Axial and sagittal thin-slice MIP

*Courtesy of Erlangen University Hospital, Erlangen, Germany*

# Head Imaging



**Collimation:**  
32 x 0.7 mm

**Scan time:**  
11 s

**Scan length:**  
159 mm

**Scan parameters:**  
130 kV

- Sequence mode
- Tilt functionality available for thorough head neuro evaluation
- Native and contrast media enhanced scans shown



# Musculoskeletal Imaging

# Musculoskeletal Imaging

**Collimation:**  
32 x 0.7 mm

**Scan time:**  
7 s

**Scan length:**  
141 mm

**Rotation time:**  
1.0 s

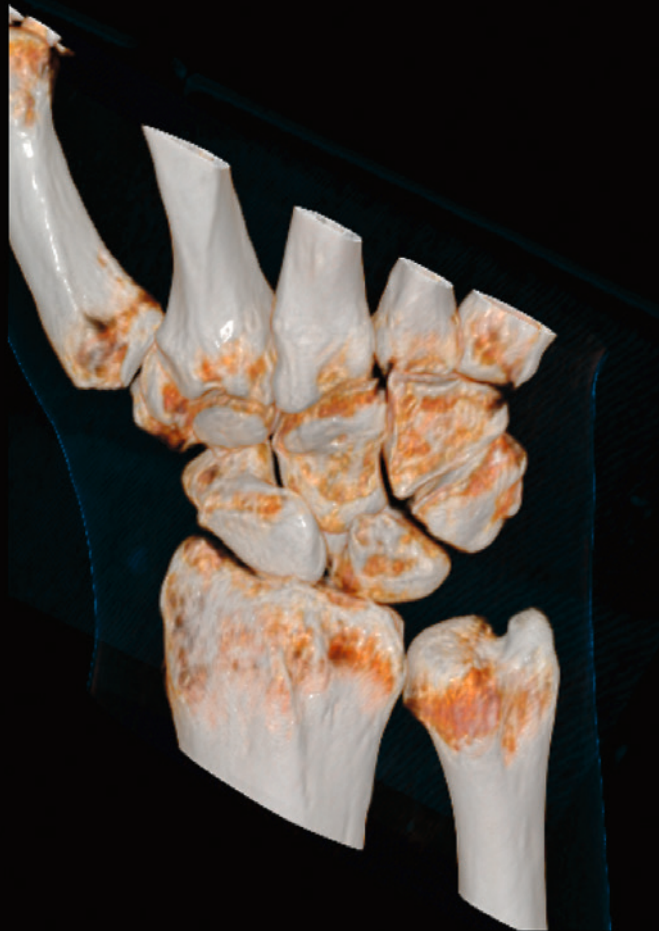
**Pitch factor:**  
0.8

**Scan parameters:**  
130 kV / 56 mAs

**CTDI<sub>vol</sub>:**  
4.97 mGy

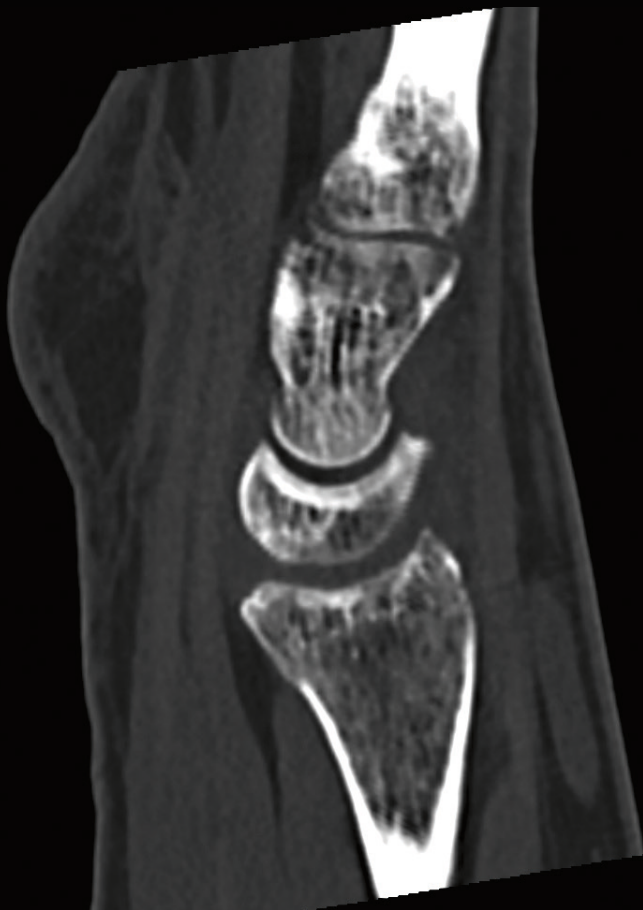
**DLP:**  
58 mGy cm

- Rule-out of fresh fracture



VRT

*Courtesy of Erlangen University Hospital, Erlangen, Germany*



Sagittal and coronal 0.8 mm MPR



# Virtual Colonoscopy

**Collimation:**  
32 x 0.7 mm

**Scan time:**  
10 s

**Scan length:**  
430 mm

**Rotation time:**  
0.8 s

**Pitch factor:**  
1.5

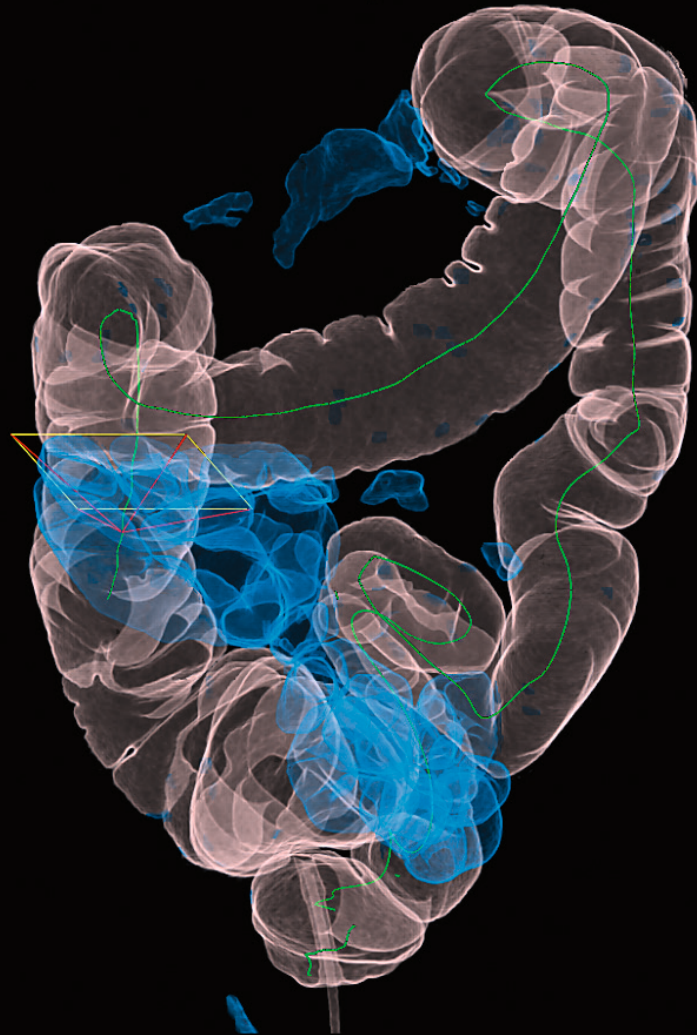
**Scan parameters:**  
Sn110 kV / 40 mAs

**CTDI<sub>vol</sub>:**  
0.63 mGy

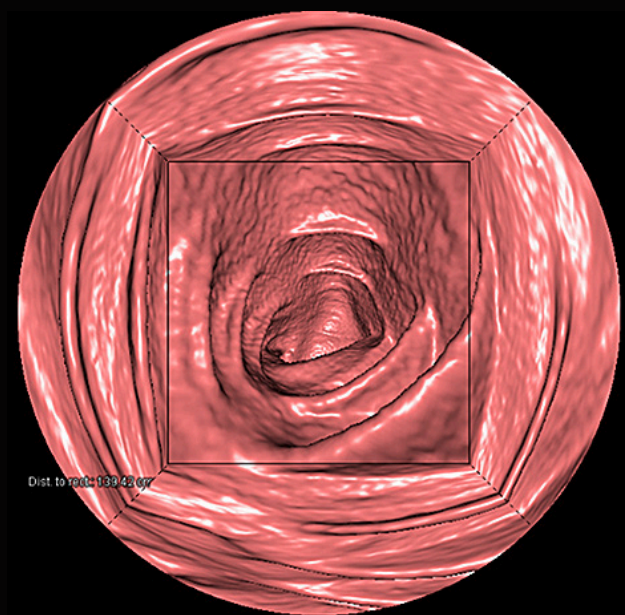
**DLP:**  
29 mGy cm

- Improve colon scans by keeping dose levels low and improving image quality at the interface of soft tissue and air
- Suitable endoluminal navigation for colon reading

# Virtual Colonoscopy



*Courtesy of Erlangen University Hospital, Erlangen, Germany*





# Pediatrics

# Pediatrics

**Collimation:**

32 x 0.7 mm

**Scan time:**

7 s

**Scan length:**

312 mm

**Rotation time:**

0.8 s

**Pitch factor:**

1.5

**Scan parameters:**

Sn110 kV / 94 mAs

**CTDI<sub>vol</sub>:**

0.16 mGy

**DLP:**

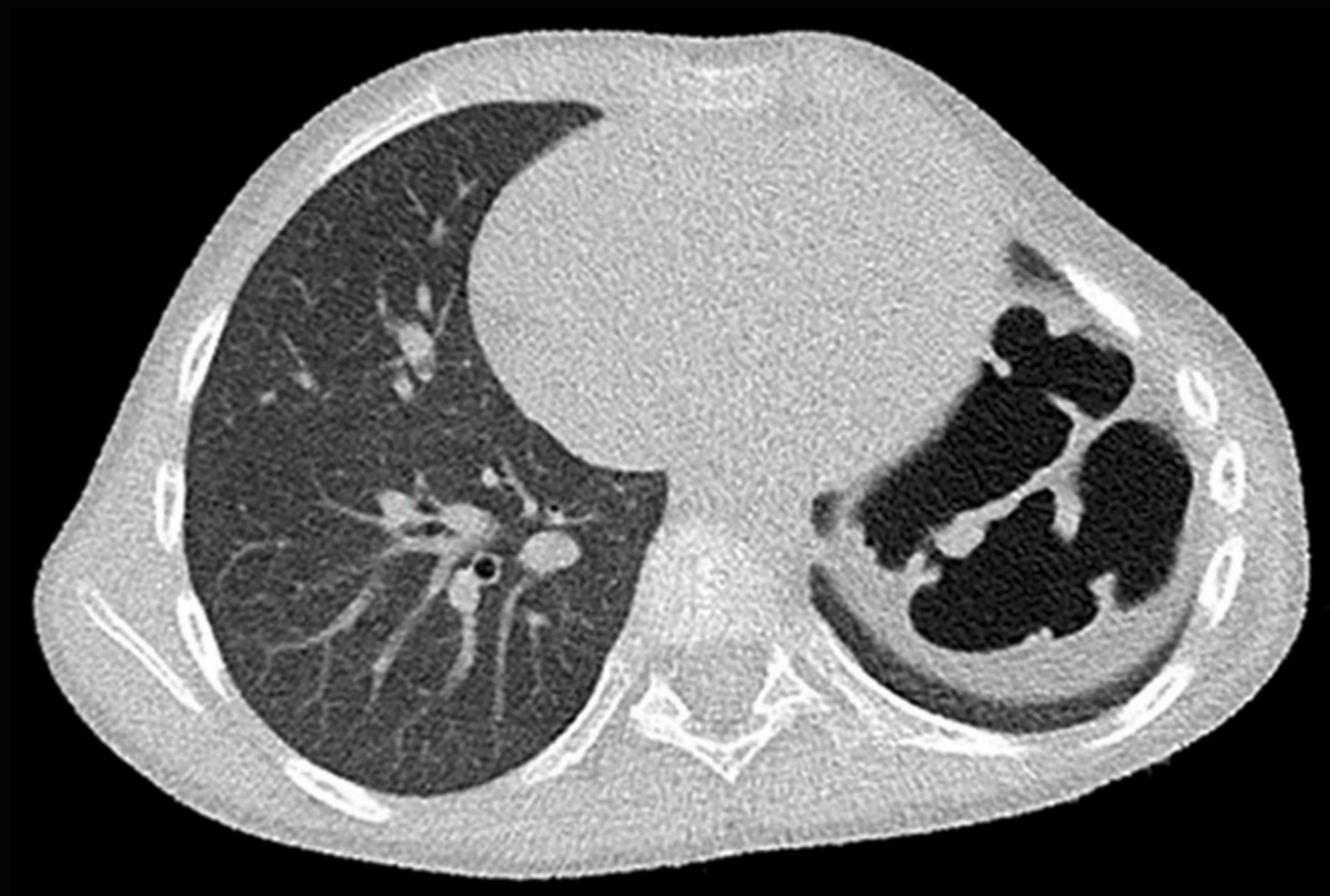
4.6 mGy cm

3 mm slice thickness

- Low-dose protocol
- 9-year-old child
- CARE Child protocols in combination with Tin Filter technology for ultra-low dose in pediatrics



*Courtesy of Centro Hospitalar de São João, Porto, Portugal*





**How to get there**

# How to get there



## Inline/offline postprocessing

SOMATOM go.Up comes with two kinds of postprocessing tools: a zero-click “inline” reconstruction toolkit and another one for “offline” diagnosis.

The inline results of Recon&GO save time, reduce workflow steps, and deliver ready-to-read, standardized images. As a standard, Recon&GO includes anatomical ranges, table and bone removal, vascular CPR (Curved Planar Reconstruction), and multi recon (for automated multiple reconstructions in just one step). The High Performance Package adds spine ranges, rib ranges, and Lung CAD.

For offline diagnosis, CT View&GO offers dedicated tools for smooth and efficient reading. Its standard version includes anatomical ranges, table and bone removal, vessel extension, and endoscopic view among others. The High Performance Package offers spine ranges and Lung CAD. Additionally, you can purchase *syngo* Osteo and *syngo* Neuro DSA.



## Stellar detector

The Stellar detector lowers image noise in every scan, while advanced iterative reconstruction from SAFIRE delivers excellent image quality at very low doses.<sup>2</sup> This provides excellent and homogenous image quality, even in complex areas, such as the base of the skull, making it especially relevant for routine neuro imaging.

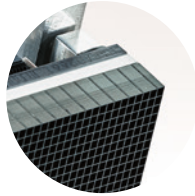
The Stellar detector’s high-end technology includes fully integrated components and an advanced 3D antiscatter collimator. It keeps electronic noise low, increases dose efficiency, and improves spatial resolution. The smart configuration of the detector elements simplifies access, eases maintenance, and increases scanner uptime.



## High Power 80

High Power 80 (high mA values in 80 kV imaging) allows you to scan with 400 mA at 80 kV for enhanced iodine contrast, which, combined with always-on sub-mm collimation, is especially beneficial for small distal vessels. The increased iodine contrast of the image allows you to reduce the amount of contrast media considerably – for better patient care and reduced examination costs.

High Power 80 is based on the mass attenuation coefficient. For lower photon energies, the mass attenuation coefficient of iodine increases, whereas soft tissue is less energy-dependent. This means that the iodine-to-soft-tissue contrast in the CT image will increase with low kV imaging – and lower average photon energy. This increase is extremely beneficial for contrast-enhanced studies.



## Sub-millimeter collimation

In addition to high power reserves in the generator and tube, SOMATOM go.Up features continuous 0.7 mm collimation across the full detector width. It therefore achieves uniform scanning over longer ranges without compromising spatial resolution or speed. Moreover, SOMATOM go.Up always provides the thin slice data necessary for flexibility in postprocessing.

Therefore, if you need further details, such as additional orientations or postprocessing tasks, you can retrospectively use inline results for additional reconstructions. You will find these reconstructions ready-to-read directly in your PACS, your film printer, or any other reading environment.



## Tin Filter

Inherited from high-end Dual Source scanners, the Tin Filter cuts out lower energies to reduce dose and optimize image quality at the interface between soft tissue and air. This has direct benefits in lung and colon imaging, for example.

Clinical experience also shows that Tin Filter technology reduces beam-hardening artifacts and improves image quality in bony structures, also making it extremely useful in orthopedic examinations.









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<sup>1</sup> Available with VA20 software version

<sup>2</sup> In clinical practice, the use of 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.

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