

SIEMENS



CT Clinical
Engines
2013
Edition

www.siemens.com/ct-acute-care

Get further. With the CT Acute Care Engine.

Driving progress for reliable therapy decisions against the clock

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

Answers for life.

What is a CT Clinical Engine?

- A powerful combination of software applications and scanner features – tailored to meet your clinical challenges
- A solution that helps you get the most from your CT scanner

With a CT Clinical Engine, you can continually enhance speed, workflow efficiency, and diagnostic information.





How far can you get with your CT?

Rising patient expectations, increasing efficiency needs: The best way to meet these challenges is to get detailed diagnostic information faster.

Whether it's for triple rule-out of acute chest pain, for stroke assessment, poly-trauma, or acute abdominal pain – the CT Acute Care Engine provides clinical functionality that delivers decisive results for all of these challenging indications. Automatic Case Preparation has your case ready for reading as soon as it is opened. Above all, speed and dependability add confidence for critical decisions made against the clock.

Driving progress for reliable therapy decisions against the clock.

Rapid

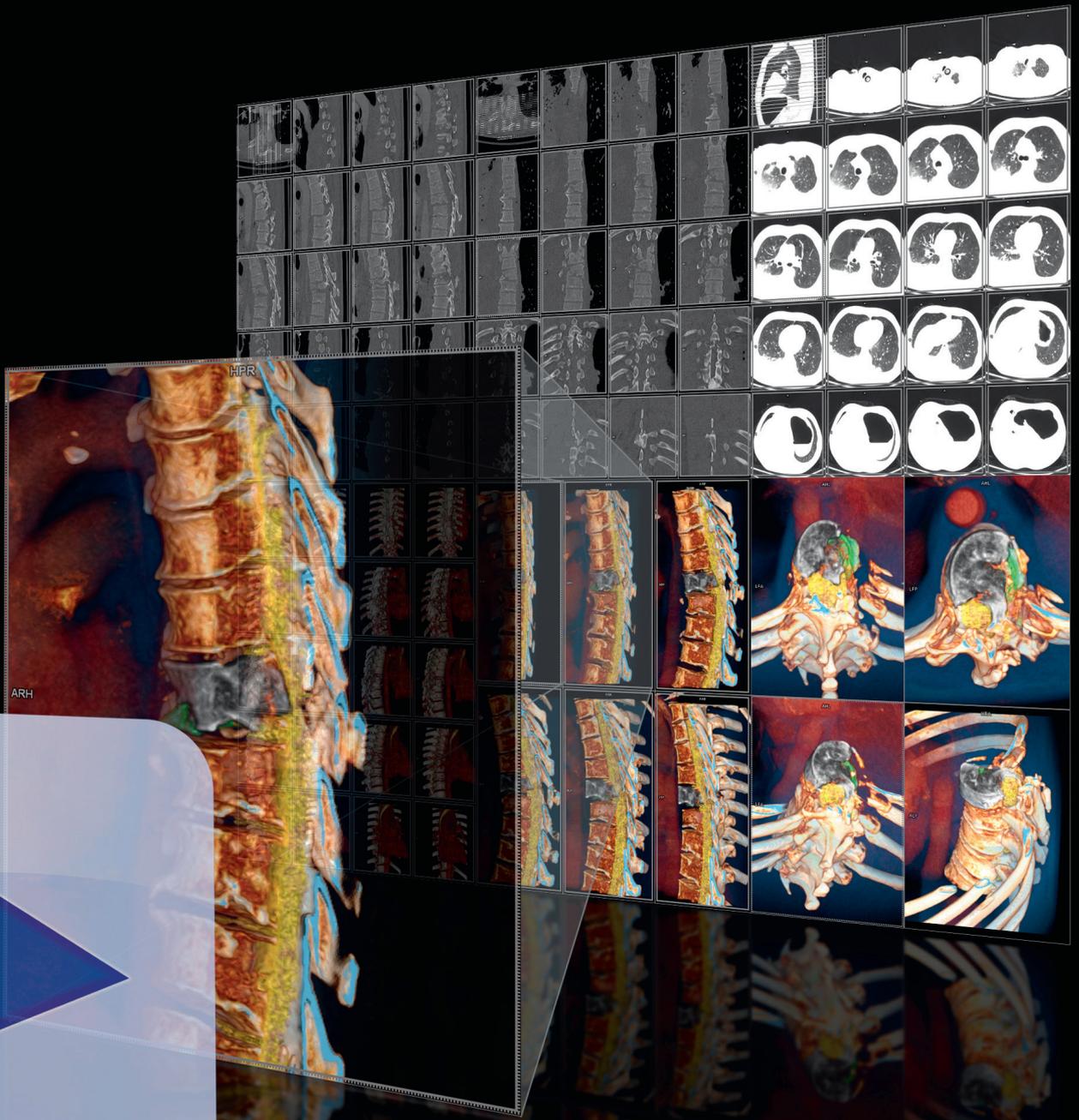
generation of images

for comprehensive

surgical planning

in thorax and

spine trauma.





Rapid generation of images for surgical planning

Rapid Results Technology and Bone & Vessel Isolation Mode

In trauma cases requiring surgical intervention for the spine, the orthopedic surgeon usually requires several standardized views of the affected region to aid in a comprehensive pre-procedural workup. Generating these different views can be time-consuming, which is particularly challenging in an emergency. Furthermore, conventional single-volume rendered techniques can make it challenging to selectively highlight bone fragments attributed to a fracture.

With Rapid Results Technology you can automatically generate visualizations of the spine and general vessels in various types and orientations. Be creative and design your own personal protocols that suit your institution's standards best. Define your workflow once and let Rapid Results

Technology produce the decision basis in the acute care scenario, whether in severe trauma cases or rule-out of aortic dissections. Save time in the "golden hour" by automatically creating just the right amount of information – for standardized and reproducible surgical planning.

Bone & Vessel Isolation Mode enables you to selectively highlight vessels, soft tissue, and bone fragments caused by fractures. It assists you in alignment assessment when there is a suspicion of acute trauma to the spine. Bone & Vessel Isolation Mode facilitates identification of spinal fractures, injuries to the spinal cord, and damage to the vascular system, thus providing a sound basis for surgical planning.



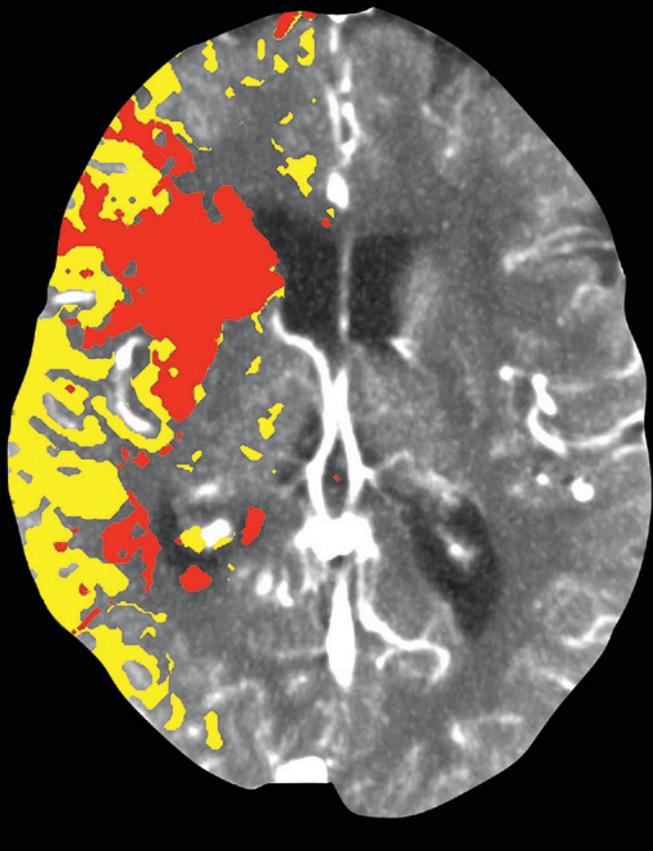
Unparalleled speed whenever time is of the essence
The SOMATOM Definition Edge and Rapid Results Technology

In acute care scenarios unconscious or severely injured patients have to be scanned quickly. Here the “golden hour” to diagnosis mandates precise localization and identification of critical injuries. Therefore one of the most challenging demands is providing high acquisition speed without compromising spatial resolution.

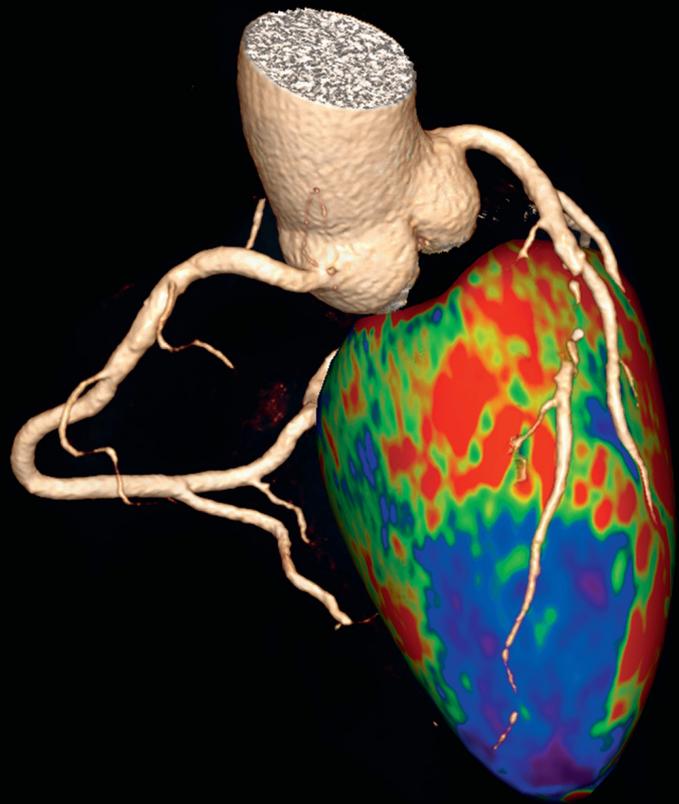
The SOMATOM Definition Edge with the Stellar Detector is in a class of its own. The new level of image detail with a routine spatial resolution of up to 0.30 mm provided by the Stellar Detector allows visualizations of very fine

fractures or lesions. Additionally, with the STRATON tube and the newly designed gantry using Siemens’ most advanced patient table, this high spatial resolution is achieved even at an acquisition speed of up to 230 mm/s. This takes motion out of the equation, increasing the diagnostic reliability in crucial cases like acute care patients.

By combining the strengths of the SOMATOM Definition Edge and Rapid Results Technology Siemens offers a fast and reliable basis for tackling the challenges in the acute care setting.



syngo.CT Neuro Perfusion*



syngo.CT Cardiac Function – Enhancement

Lifesaving decisions, when every second counts

Quantitative evaluation of dynamic CT data syngo.CT Neuro Perfusion*

In acute stroke it may be challenging to differentiate the core infarct from tissue at risk for infarction (penumbra). This is important, however, as the latter is potentially salvageable with further therapy.

With a range of unique features syngo.CT Neuro Perfusion helps you easily assess the potential benefit of treatment. It directly visualizes tissue at risk in 3-D color maps, based on the mismatch between blood volume and flow. Alternatively, feel free to select individual mismatch parameters such as Siemens' Time-To-Drain. Refined algorithms offer automated gray matter segmentation so you can immediately focus on the relevant tissues.

Localize the perfusion defect – assess the hemodynamic relevance syngo.CT Cardiac Function – Enhancement**

A coronary CTA might yield an intermediate coronary stenosis with unclear hemodynamic relevance. The evaluation in standard cardiac planes may be challenging, since the correlation to the coronary vessel in question can be difficult.

syngo.CT Cardiac Function – Enhancement solves this issue. It features AHA-compliant 17-segment polar maps for first pass myocardial perfusion data. Perfusion defects are easily localized and the overlay with the VRT in the Hybrid View helps to correlate a defect with the supplying coronary artery.

Rule out coronary artery disease in less than a minute syngo.CT Coronary Analysis

When suspecting an acute coronary syndrome, it is essential to assess the entire coronary tree. Severe stenoses may degrade a detailed visualization of the coronary vessels.



syngo.CT Coronary Analysis



2013 Edition: What else is new?

syngo.CT Vascular Analysis

Nevertheless, you may need to make a confident decision in a very short period of time.

syngo.CT Coronary Analysis now features a robust segmentation of the coronary vessels and provides a comprehensive visualization of the coronary tree, despite high-grade stenoses. You can reliably assess the case and make a sound decision – even when time is close.

Comprehensive length and diameter measurements for therapy planning

syngo.CT Vascular Analysis

Accurate measurement is key to reliable AAA and TAA stent planning. Inexact placement of start and end points of a distance measurement compromises the optimal choice of the implant device. The calculation of the effective vessel diameter can be cumbersome, since vessel cross sections are usually noncircular.

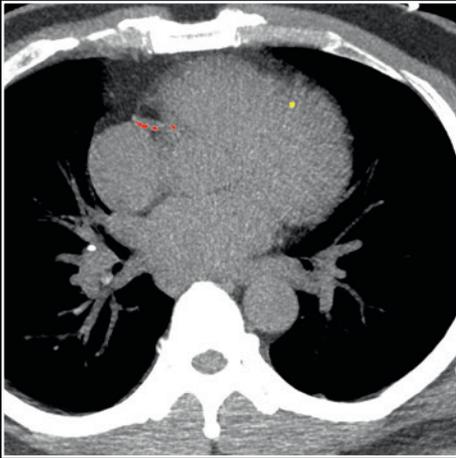
In syngo.CT Vascular Analysis, reference markers are now displayed in the VRT, enabling an easy placement at, e.g. ostia or the iliac bifurcation. The exact position can now be fine-tuned through direct scrolling in cross sections along the curved centerline. Also, the system automatically provides effective vessel diameters, based on cross-sectional area and perimeter.

* Not commercially available in the U.S.

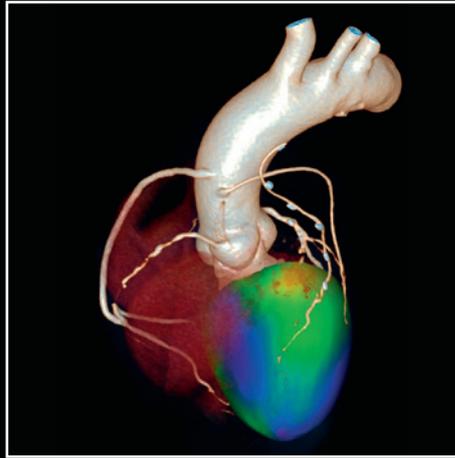
** Optional

Your benefits at a glance

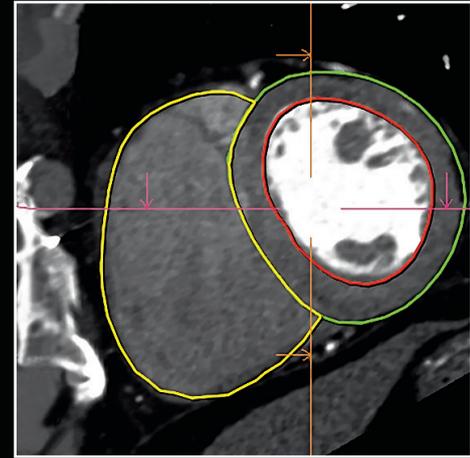
- More comprehensive – differentiate between the core infarct and penumbra
- Easier – detect perfusion defects and correlate them with the supplying coronary artery
- Sounder – experience robust coronary segmentation despite high-grade stenoses



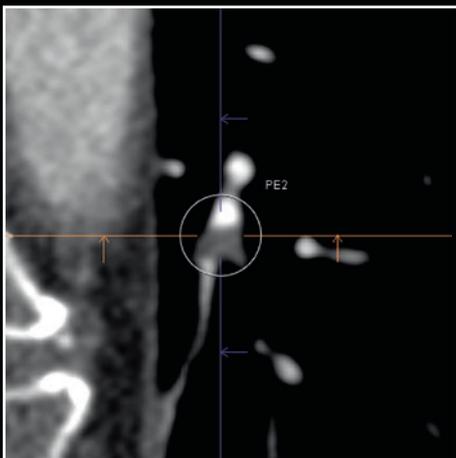
Quick risk assessment and coronary age calculation
 syngo.CT CaScoring



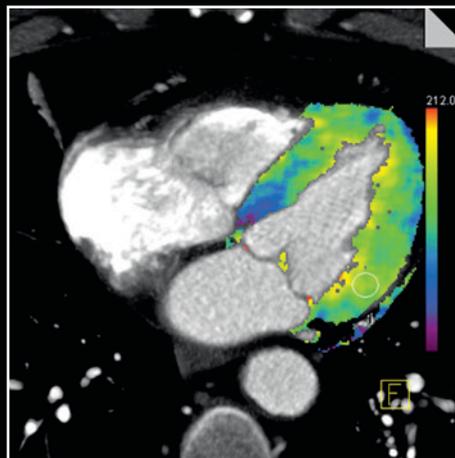
Comprehensive global and local left ventricular analysis
 syngo.CT Cardiac Function



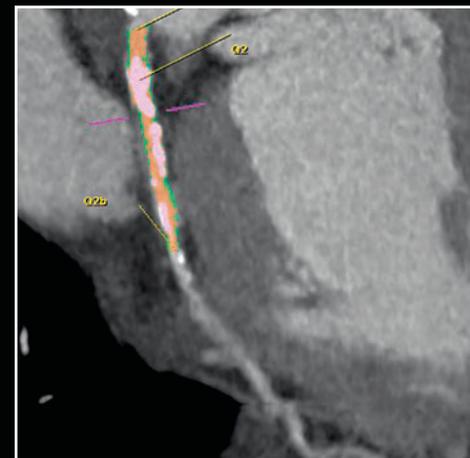
Right ventricular analysis – even with MinDose data
 syngo.CT Cardiac Function – Right Ventricular Analysis*



Automatic detection of pulmonary filling defects
 syngo.CT PE CAD**

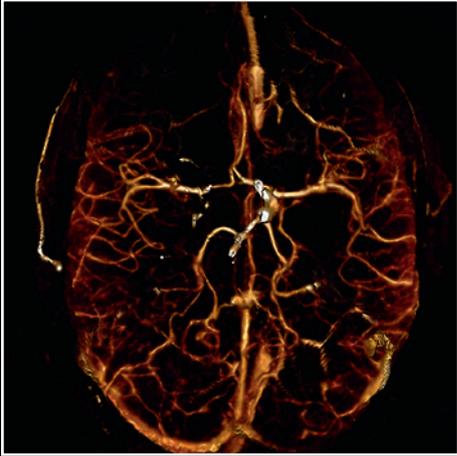


Dynamic quantitative myocardial perfusion assessment
 syngo Volume Perfusion CT Body – Myocardium*

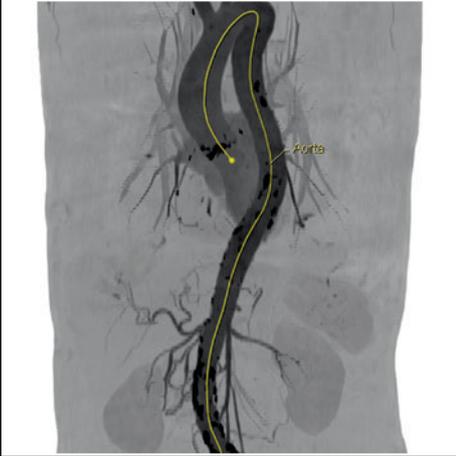


Volumetric quantification and differentiation of lipid, fibrous, and calcified plaques
 syngo Circulation Plaque Analysis*

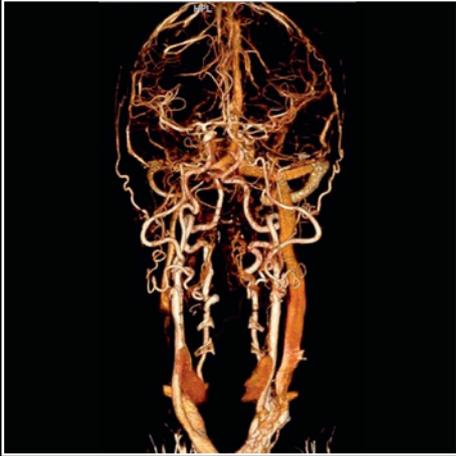
Get further – with our CT Acute Care Engine



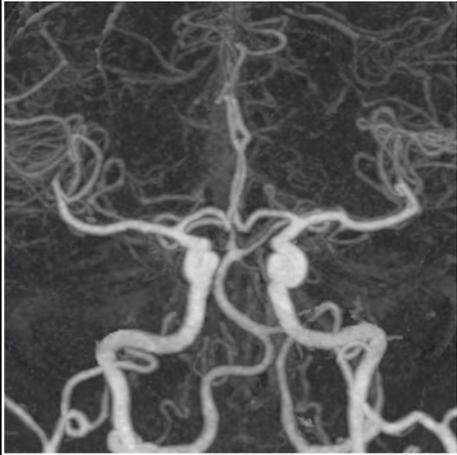
Dynamic vessel evaluation
syngo.CT Dynamic Angio*



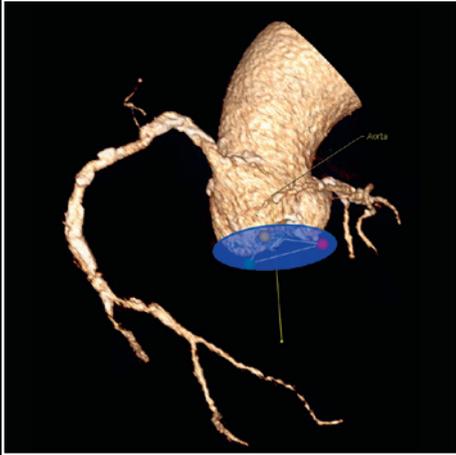
Zero-click tracing of the main
general vessels
syngo.CT Vascular Analysis –
Autotracer*



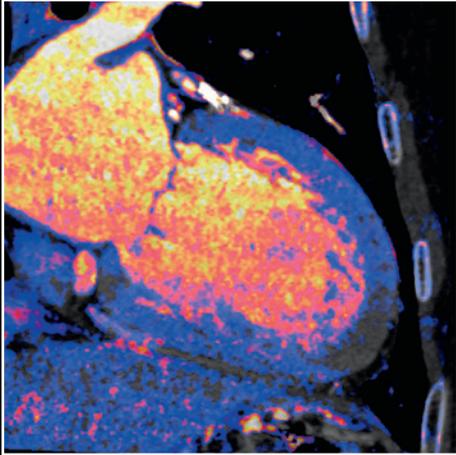
Accurate bone removal with Dual Energy
syngo.CT DE Direct Angio*



Detailed visualization of the cerebral
vasculature
syngo.CT Neuro DSA



Zero-delay quantitative aortic annulus
assessment
syngo.CT Cardiac Function – Valve Pilot**



Quantification of myocardial iodine uptake
with Dual Energy
syngo.CT DE Heart PBV*

* Optional
** Optional and not commercially
available in the U.S.

and optional applications

Global Siemens Headquarters

Siemens AG
Wittelsbacherplatz 2
80333 Muenchen
Germany

**Global Siemens
Healthcare Headquarters**

Siemens AG
Healthcare Sector
Henkestrasse 127
91052 Erlangen
Germany
Phone: +49 9131 84 0
www.siemens.com/healthcare

Global Business Unit

Siemens AG
Medical Solutions
Computed Tomography
& Radiation Oncology
Siemensstr. 1
DE-91301 Forchheim
Germany
Phone: +49 9191 18 0
Fax: +49 9191 18 9998

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