Get further with CT-guided intervention and therapy

CT-guided interventions for accuracy and efficiency

siemens-healthineers.us/guided-intervention
What is the Adaptive 3D Intervention Suite?

• A powerful combination of software applications and scanner features—tailored to meet your clinical challenges in CT-guided interventions.
• A solution that helps you get the most from your CT scanner in image-guided intervention.

With the Adaptive 3D Intervention Suite, you can continuously enhance the speed, workflow efficiency, and precision of CT-guided interventions.

How far can you get with your CT?

Year after year, CT-guided therapy advances therapeutic possibilities, supporting you in better understanding diseases so you can guide the right treatment with speed and precision.

There is an increasing need for CT image guidance in surgical and minimally invasive interventions. This technology supports guided surgery and the positioning of biopsy needles and treatment catheters.

Our sliding-gantry solutions perfectly complement hybrid ORs. Our Adaptive 3D CT Intervention Suite has the unique ability to work with 3D volume-rendered spiral data sets. This 3D capability allows for fast and accurate positioning in the most complex anatomies, even at difficult oblique angles. In addition, the i-Control gives full wireless in-room control of all relevant scan parameters, directly at the table.
2D and 3D CT-guided intervention with the Adaptive 3D Intervention Suite

Interventions with complex anatomies (like lung biopsies, liver ablation, and spinal surgery) are best visualized with the 3D CT guidance offered with the Adaptive 3D Intervention Suite. It allows you to work freely within a 3D volume-rendered spiral or sequential CT dataset. Full wireless control over table movement and software functions is offered directly at table side with i-Control.

Working in near real-time 3D offers many advantages: You can see the whole organ using a VRT and view the lesion with sagittal, coronal, and axial MPRs. Always be on track with our smart automatic, needle-detection algorithms and path planning tools. They automatically select the optimal needle viewing plane and entry point for you and determine the angle for needle insertion. This 3D capability allows for fast and accurate positioning in the most complex anatomies, even at difficult oblique angles.

Your benefits at a glance

• i-Control: Full in-room control at table side over table movement and scanner software
• 3D CT guidance: The Adaptive 3D Intervention Suite offers precise positioning even in the most complex anatomies
• 2D CT guidance: The Basic Intervention package is ideal for spinal injections
2D CT-guided intervention with the Basic and Advanced Intervention package

For less complex cases like CT-guided spinal injections, the 2D CT guidance offered with Basic Intervention is appropriate. Three axial images are typically delivered in near real-time over the data set. Basic Intervention supports sequential and spiral modes with quick switching between them for a better overview and navigation in the data set.

With the CT fluoroscopy offered with Advanced Intervention, you can stay at the table side and don’t need to leave the room between scans. With CT fluoro, you can scan continuously, view images in near real-time, and hit your target in one pass. HandCARE reduces the dose to the clinician by switching off the X-ray tube in the proximity of the hands.

Images courtesy of University Hospital, LMU Grosshadern, Munich
Our portfolio for CT-guided 3D intervention

2D and 3D CT-guided solutions offered with the SOMATOM Confidence, Definition Edge, Edge Plus, Drive and Force.

The Adaptive 3D Intervention Suite

- Premium solution for 2D and 3D CT-guided interventions that demand precision and speed
- i-Control offers full control of software functionality and table movement at table side (wired or wireless)
- Full 2D guidance capability
- 3D volume-based interventions
  - Work freely in all dimensions
  - Near real-time reconstructed MPR images
  - MPRs in coronal, sagittal, and oblique planes
- CT fluoroscopy, sequential, and spiral scan modes
- Quickly switch between i-Sequence, i-Spiral, and i-Fluoro modes
- i-Fluoro CT Fluoroscopy displayed in real-time with up to 10 frames/s
- Interventional 3D toolbar available supporting smart algorithms from syngo® 3D tools:
  - Automated Path Planning by selecting target and entry points
  - Auto-Needle Detection
  - Switching between patient-oriented view and needle-oriented view
  - i-NeedleSharp to avoid needle artifacts (available for sequential scans on scanners offering gantry tilt)

The Adaptive 3D Intervention Suite contains Intervention Pro, Adaptive 3D Intervention, i-Fluoro, and i-Control plus foot switch for radiation release, which can also be purchased separately.

Images courtesy of University Hospital, LMU Grosshadern, Munich
Our portfolio for CT-guided 2D intervention

2D CT-guided solutions offered with the SOMATOM go. platform and X.cite

The Guide&GO package

- Biopsy made based on sequential scans
- Control at table side with interactive tablet
- Image guidance facilitated by displaying three slices simultaneously
- Smart phone-like direct interaction with images via touch screen gestures
- Zoom
- Pan
- Windowing
- Distance measurements
- Works with sterile cover and gloves
- Gain full flexibility of positioning the table right where you need it
- Protect your patients and staff by introducing high end low-dose technologies and improved ergonomics
- Invest wisely in a cost-tailored solution, suitable to address the vast majority of intervention types
- Tin filter
- FAST i-Sequence – a low dose alternative to CT fluoroscopy
Get further —
with CT-guided intervention

3D-guided radiofrequency ablation of the liver with the Adaptive 3D Intervention Suite

3D-guided lung biopsy with the Adaptive 3D Intervention Suite

2D-guided percutaneous puncture of a cavity in the pelvis using i-Fluoro

2D-guided spinal injection using low-dose i-Fluoro

Images courtesy of University Hospital, LMU Grosshadern, Munich; PUMC Hospital, Beijing, China; and Hannibal Regional Hospital, Hannibal, MO USA
Get further — with CT-guided intervention

Spine and ribs in unfolded view for spinal surgery planning syngo.CT Bone Reading

TACE catheter placement in a combined angio CT hybrid suite (SOMATOM Definition AS+ and Artis zee)

Images courtesy of Siemens Healthineers
Metal artifact reduction using iMAR or CT Dual Energy enables better visualization during spinal surgery – syngo.CT Dual Energy

Multi-phase contrast-enhanced CT for outlining the liver tumor syngo.CT Body Perfusion

CT perfusion demonstrating blood-flow deficit post TACE treatment syngo.CT Body Perfusion

Images courtesy of University Hospital, LMU Grosshadern, Munich
CT image-guided therapy in hybrid suites

Sliding-gantry CT scanners are playing an increasing role in interventional and hybrid OR’s. Their versatility allows them to be utilized in the workflow for a variety of minimally invasive interventions and more invasive surgeries. Sliding Gantry CT and nexaris Angio-CT suites bring precise and functional imaging into your interventional suite providing the potential for intraoperative treatment, monitoring and personalized therapy. A two-room configuration makes efficient use of a single CT that can be moved between a CT intervention room and a nexaris Angio-CT suite. Additionally, a 2 room solution offers the CT scanner to be utilized as a stand-alone CT or the CT gantry can slide on rails into the Interventional suite avoiding repositioning the patient providing CT imaging during the procedure. A single room nexaris Angio-CT enables the use of multi-modality imaging during a procedure.

Different imaging modalities have distinct advantages and combining them offers the best of both worlds. CT imaging excels with low-contrast resolution in visualizing soft tissues and lesions extension. The sliding gantry CT provides the advanced imaging functionality of a stationary scanner such as low dose innovations, the reduction of metal artifacts with iMAR, iterative reconstruction, Dual Energy and CT Perfusion. CT Dual Energy imaging provides high and low contrast imaging to help differentiate tissue, including visualization of iodine uptake in tumors. CT Perfusion is available on sliding gantry and offers visualization of contrast media within the blood vessels.
CT image guidance in minimally invasive therapy

Interventional radiologists are using nexaris Angio-CT combined suites to guide the treatment of liver cancer with trans-aortic chemo embolization (TACE) and percutaneous radiofrequency ablation (RFA). A SOMATOM Definition Edge, SOMATOM Edge Plus and SOMATOM Confidence sliding-gantry CT on rails with the Adaptive 3D Intervention Suite and i-Control can be combined with angio systems in a single or dual room layout. Both CT and angiography systems can be moved into and out of position when needed. When performing a biopsy, ablation or drainage, identifying the optimal location, inserting the needle at the right angulation is about optimizing clinical outcomes and avoiding complications. By combining imaging modalities of CT and Angio during therapy and treatment provides advantages to help target, monitor and verify the outcome without transferring the patient. Imaging that supports you and helps you make the right decision at the right time.

Your benefits at a glance

- Combine the best of both worlds with hybrid nexaris Angio-CT Suites
- Boost your trauma and interventional surgery workflow with sliding-gantry CT

What's the top innovation?

CT sliding gantry with Adaptive 3D Intervention System and ceiling-mounted Artis zee angiography system.
At Siemens Healthineers, our purpose is to enable healthcare providers to increase value by empowering them on their journey toward expanding precision medicine, transforming care delivery, and improving patient experience, all enabled by digitalizing healthcare.

An estimated 5 million patients globally benefit every day from our innovative technologies and services in the areas of diagnostic and therapeutic imaging, laboratory diagnostics, and molecular medicine, as well as digital health and enterprise services.

We’re a leading medical technology company with over 120 years of experience and 18,500 patents globally. With about 50,000 dedicated colleagues in over 70 countries, we’ll continue to innovate and shape the future of healthcare.

The outcomes and statements provided by customers of Siemens Healthineers are unique to each customer’s setting. Since there is no “typical” hospital and many variables exist (e.g., hospital size, case mix, and level of service/technology adoption), there can be no guarantee that others will achieve the same results.

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