ARTIS icono

A breakthrough in neuro interventions

Transforming care delivery in image-guided therapy.
After the randomized controlled trials have proofed the positive outcomes of mechanical thrombectomy in ischemic stroke, interventional neuroradiology is confronted with an increasing number of procedures.
When a stroke occurs, every second counts in the battle to minimize neurological deficit. Many large vessel occlusion patients can benefit from interventional stroke management, where imaging and mechanical thrombectomy go hand-in-hand. This streamlined workflow has the potential to significantly enhance patient outcomes – and with more and more randomized controlled trials confirming the safety and success of mechanical thrombectomy, the number of stroke patients eligible for the procedure is growing steadily.

**Procedure growth & coverage**

So far, however, most of these eligible patients will not actually receive mechanical thrombectomy. To close the gap, more and more hospitals are now introducing comprehensive stroke services. As a result, the global growth rate for mechanical thrombectomy procedures is currently 26 percent per year*.

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*A Source: Decision Resources Group Medtech 360, CAGR 2017 – 2022

**Coverage gap in mechanical thrombectomy**

AT Procedure Data Tool, based on registries and market reports.

Source: Rai AT, et al., J Neurointervent Surg (9) 2017
ARTIS icono – Advancing therapy outcomes in neuro interventions

With the number of thrombectomy eligible stroke patients rising steadily, you and your colleagues face a double challenge: treating more patients overall, and treating each one faster.

Our ARTIS icono system is specially designed to help you do both. With next-generation features, this icon of innovation can help you streamline procedures and exploit new growth fields – by literally expanding precision medicine.

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Thanks to visualization of bleedings in the angio room, many patients with suspected stroke (NIHSS > 7, high stroke score) may no longer require conventional preliminary imaging. Instead, initial studies have shown that you can take them straight to the angio lab for diagnosis and subsequent intervention, possibly reducing time-to-thrombectomy by 34 minutes on average.

To a stroke patient, 30 minutes may be a lifetime

Switch smoothly and seamlessly between 2D and 3D imaging. Acquire CT-like images of unprecedented quality in moments. When every second counts, ARTIS icono delivers – fast.

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The Siemens Healthineers stroke workflow – “time is brain”

Arrival at hospital → Neurological exam

Today’s standard

NIHSS ≤ 7
Low stroke score

CT

Treatment in angio suite

NIHSS > 7
High stroke score

MR

Imaging and treatment in angio suite

Saving 30 min. = 10% chance of better outcome

Potential: Save 1 hour
**Faster and easier syngo DynaCT acquisition**

syngo DynaCT High Speed reduces acquisition times significantly while raising the bar in CT-like image quality. In addition motion artifacts are reduced in syngo DynaCT with uncooperative patients by compensating movements. With the new Twin Spin feature you can smoothly switch between 2D biplane and 3D imaging and save precious time, and also reduce the risk of collisions with equipment (e.g., anaesthesia). You can now use biplane fluoroscopy to perform AP and lateral isocentering in a single step – no need to move the c-arm.

**OPTIQ – A new approach to image quality and dose**

Regardless of procedure, patient size or C-arm angulation, OPTIQ provides image quality according to your personal flavor. This innovative system uses big data to maintain your image quality presets automatically throughout the procedure. For maximum dose efficiency without user interaction, OPTIQ uses a contrast-driven technique based on automatic parametrization supported by intelligent, self-adjusting algorithms.

- Siemens Healthineers exclusive 5-parameter-driven exposure control
- SID and collimation settings are factored in automatically
- Constant image quality at a new ALARA benchmark

**Faster diagnosis for faster treatment**

ARTIS icono acquires DynaCT images in less than half the time

Designed for faster diagnosis and faster treatment, ARTIS icono is a pioneer in the field of angio-only stroke therapy.
Clear and consistent 3D imaging from cranium to basal

ARTIS icono delivers the consistent 3D whole-brain imaging quality you need for confident stroke diagnosis, treatment and optimal patient outcomes. With time-dynamic perfusion imaging tools at your fingertips, swift, smooth workflows become possible.
**syngo DynaCT Sine Spin**: Visualize bleeding even near bony structures

*syngo* DynaCT uses a new double oblique trajectory to overcome artifacts from the massive bony structures that surround the basal part of the brain. With a homogeneous soft tissue resolution from cranium to basal, ARTIS icono takes whole-brain soft tissue imaging to new levels of quality and consistency. *syngo* DynaCT Sine Spin is ideal before performing thrombectomy, and after all neuro interventions.

**syngo DynaCT Multiphase**: Cerebral collateral vessel visualization without transferring to CT

By making collateral status imaging an integral part of your interventional suite, *syngo* DynaCT Multiphase supports sound treatment decisions before mechanical thrombectomy. Rather than transferring the patient to CT, you can now save time by using time-resolved DynaCT instead.

*syngo* DynaCT Multiphase depicts up to 10 different time points within a period of ~60 seconds or less. The images can be processed with the RAPID™ software by iSchemaView**.

- Seamlessly integrate collateral status imaging into your interventional suite
- Sounder decisions based on time-resolved CTA information
- Save time by skipping the transfer to CT

**ARTIS icono and iSchemaView’s RAPID™**

RAPID ANGIO** provides clear, easy-to-interpret CT perfusion maps. These help you to identify brain regions with reduced cerebral blood flow and blood volume, as well as delayed contrast arrival. RAPID based on CT images was used in the DAWN and Defuse3 multicenter studies.

*optional feature

**Third party SW required.
Better patient outcomes in cerebral aneurysms

When you need to visualize flow characteristics clearly and identify regions with blood flow anomalies, ARTIS icono delivers.

**syngo iFlow – dynamic flow evaluation**
At the press of a button, syngo iFlow* visualizes a complete DSA run in a single, color-coded image. It can display flow curves (e.g. time to maximal opacification, area under curve) for regions of interest, and evaluates the in- and outflow of contrast both before and after flow diverter placement.

**syngo Dyna3D – high-contrast 3D acquisition and visualization**
syngo Dyna3D* acquires high-contrast 3D visualizations in just three seconds, saving you time and helping to save contrast media. You can either view contrast media and devices separately, or together in different colors. syngo Dyna3D supports both subtracted and unsubtracted acquisition and visualization.

“Over the years, for us the challenge for aneurysm treatment is to be able to treat more complex cases, smaller aneurysms and more complex anatomy.”

Mani Puthuran MD, The Walton Centre, Liverpool, UK
**syngo DynaCT Micro – maximum resolution for very small vessels**

With an outstandingly high spatial resolution of approx 0.14 mm, syngo DynaCT Micro* optimizes spatial orientation in very small anatomies and devices. It harnesses the power of every detector pixel to boost the level of detail – and raises the bar in 3D imaging resolution.

**syngo DynaCT SMART – see the full picture around metal stents**

syngo DynaCT SMART* reduces metal artifacts in a fully automated workflow in order to visualize regions in close vicinity of metal to make diagnosis possible. This makes it ideal for excluding in-stent stenosis or residual aneurysm filling.

*optional feature
Better patient outcomes in arteriovenous malformations

When you’re planning AVM treatments, clarity is key. ARTIS icono adds a new dimension to simplify the treatment of complex vessel anatomies.

**syngo Dyna4D – better orientation for AVM treatment**

*syngo Dyna4D* is specially designed to help you plan AVM treatments with confidence. By combining 3D vessel tree and temporal blood flow information in a single visualization, it brings outstanding clarity.

- Combine temporal and 3D information
- Sounder AVM treatment planning

“The ARUBA trial conclusion that medical management is superior to medical management with interventional therapy for all unruptured AVMs could be repudiated.”

Neurosurgery 2018 (391), The NASSAU (New Assessment of cerebral Arteriovenous Malformations yet Unruptured) Analysis
Better patient outcomes in spinal interventions

To enhance your flexibility, ARTIS icono biplane offers laser crosshairs in both planes.

**syngo Needle Guidance – faster, more comfortable needle procedures**

syngo Needle Guidance* displays the length and direction of the needle path on the fluoroscopy image. The C-arm positions automatically in bull’s eye and progression view, while the integrated laser crosshair indicates both the planned entry point and the angle of the device.

*optional feature
**Technical Data**

**Installation**

ARTIS icono is available as a biplane and floor-mounted system

**Required room size**

ARTIS icono floor requires a minimum room size of 25 m² with the Standard Table and 29 m² with the Multi-tilt Table

ARTIS icono biplane requires a minimum room size of 27 m² with the Standard Table and 29 m² with the Multi-tilt Table

**Multiaxis floor stand**

- Flexible C-arm positioning at patient’s head, left and right side
- Longitudinal coverage of 210 cm, lateral coverage of 190 cm
- C-arm angulation speed up to 100°/s

**Agile lateral plane**

- Swivel range of 270° to reach detector position on patient’s left and right side
- C-arm rotation of +/-100° relative to lateral position for full 3D capabilities*
- C-arm angulation speed of up to 60°/s

**Patient tables**

<table>
<thead>
<tr>
<th>ARTIS Multi-tilt Table</th>
<th>ARTIS Standard Table</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Virtually no force required for repositioning</td>
<td>• Free floating table top with lowest panning forces</td>
</tr>
<tr>
<td>• Flexible tilting of +15° / -20° and Cradle: +15° / -15°</td>
<td>• Patient weight up to 280 kg</td>
</tr>
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</tr>
</tbody>
</table>

**OPTIQ imaging chain**

- Offers constant image quality at a new ALARA benchmark. Regardless of procedure, patient size or C-arm angulation.
- Pre-set image quality level is maintained automatically throughout the procedure for maximum dose efficiency.
- Contrast driven technique based on automatic parametrization supported by intelligent, self-adjusting algorithms.

**as40HDR flat detector**

- 16-bit analog-digital conversion
- 65,000 differentiable gray levels
- Refresh rate of 270 Hz
- Images with a resolution up to 2480 x 1920 pixels

* not yet commercially available
**Why Siemens Healthineers?**

At Siemens Healthineers, our purpose is to enable healthcare providers to increase value by empowering them on their journey towards expanding precision medicine, transforming care delivery, and improving patient experience, all supported by digitalizing healthcare.

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

We are a leading medical technology company with over 170 years of experience and 18,000 patents globally. With more than 48,000 dedicated colleagues in 75 countries, we will continue to innovate and shape the future of healthcare.

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The clinical overlay on the title is not that of the individual pictured. It was modified for better visualization.

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