SOMATOM On.site

Bringing critical care imaging to your patient

Focus: Intensive Care Units

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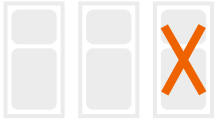
Providing CT scans of the head for ICU patients is crucial but often challenging

ICU (Intensive Care Unit) patients suffering from acute and critical head conditions face a high risk of sudden health status deterioration. When this happens, fast evaluation is essential for immediate treatment decision-making. CT scans are ideally suited for this task – but providing imaging for ICU patients is often cumbersome and not without risk.

CT scans of the head are in high demand
Head scans are among the most common procedures for ICU patients and account for 30% of all CT scans.[1]

ICU patient transport involves logistical and staffing challenges
Transporting patients from the ICU to the radiology department is a delicate and complex process that requires up to five staff members[2] to leave their other duties behind.



ICU staff shortage limits patient care
Frequent bed closures affect 76% of German ICU floors, mostly due to staff shortage.[3]

Transport may negatively affect the patient's health status
Providing CT imaging requires transporting ICU patients to the radiology department. However, for 1 in 5 patients, transport makes existing health conditions worse.[4]

ICU patient scans complicate radiology department schedules
Patients with acute and critical conditions tie up CT scanners for at least twice as long as most other patients.[5,6] Transports are also frequently delayed,[2] making it necessary to reschedule other patients.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Bringing critical care imaging to your patient

Our mobile head CT scanner SOMATOM On.site provides access to consistent and reliable SOMATOM image quality, right at your patient's bedside. Thanks to the latest advances in digital healthcare, the intelligent software myExam Companion together with our GO technologies guides users through the scanning process. With this workflow guidance the system is easy to use and it enables greater consistency in image acquisition across your team.

SOMATOM On.site will change the way you care for ICU patients suffering from acute and critical head conditions. Reducing transport to the radiology department may help prevent related complications and allows your staff to concentrate on what matters most: providing optimal care for every patient at the ward. With this easy access to CT imaging of the head directly at the point of care, you can get images to help diagnose and treat sudden changes in the patient's condition or arising complications faster. Additionally, offering CT imaging directly in the ICU allows the radiology department to maintain their scheduling.

With SOMATOM On.site, you can transform care delivery.

See for yourself

Our workflow video demonstrates how point-of-care CT scanning works with SOMATOM On.site.

Transform care delivery with SOMATOM On.site

Reduce patient transports

SOMATOM On.site permits CT imaging of the head directly in the ICU ward, so patients need not encounter any transport-associated risks. Acquiring images directly at the patient's bedside may speed up diagnostics and following decisions and steps.

Optimize staff deployment

SOMATOM On.site reduces the need for transporting patients to the radiology department for CT scans of the head. ICU staff and doctors can stay in the ICU. This means they can gain additional time for providing bedside patient care and focus more on their core tasks.

Achieve reliable and consistent image quality at the point of care

SOMATOM On.site brings SOMATOM image quality to the patient's bedside. It is combining proven technologies from existing SOMATOM scanners with newly designed components.

Point-of-care imaging reduces the number of ICU patient scans that need to be performed in the radiology department, potentially resulting in more streamlined utilization of stationary systems and staff, along with more predictable radiology appointment schedules.

Experience convenient and reliable bedside imaging

SOMATOM On.site streamlines the imaging workflow, and enables access to SOMATOM image quality for critically ill patients directly in the ICU.

Mobility and driving concept

The mobility of SOMATOM On.site helps you provide imaging to patients at virtually any location. The motorized trolley features four driving wheels along with an ergonomic drive handle that enable easy maneuverability even in small spaces.

For safe handling in busy environments, SOMATOM On.site is equipped with an integrated front camera that provides the user real time viewing when driving and maneuvering the system. The integrated computers lender further flexibility for patient scans in small rooms where additional trolleys would be a hindrance.

Patient positioning concept

SOMATOM On.site features a telescopic gantry and stationary system trolley that remains retracted until you are ready to start scanning. This gives you ample space for patient positioning with tubes and lines in place. The scanner comes with convenient integrated patient support accessories. The integrated body support (shoulder board for neuro imaging) helps bridging the gap between the bed and scanner. Sliding the patient's upper body onto the shoulder board permits convenient patient positioning in preparation for scans. Furthermore, the integrated patient scan support (head holder for neuro imaging) of SOMATOM On.site helps for correct isocentric positioning of the patient's head inside the gantry bore.

Simple steps suitable for cross-trained staff

- Select your patient via the intuitive user interface of SOMATOM On.site.
- Choose your preferred scan protocol for image acquisition.
- Scan&GO allows you to supervise the scan right at your patient's bedside.
- Check&GO gives you the chance to check images before sending them to PACS.
- Recon&GO handles all postprocessing for you and automatically uploads the images to the PACS.

Fast and intuitive scan preparation

SOMATOM On.site leverages key digital healthcare innovations to unleash the full potential of modern imaging technology – independent of the operator's experience. The scanner offers an intuitive user interface on the Touch UI and, thanks to myExam Companion, guides you through the complete imaging examination.

In addition SOMATOM On.site features workflow guidance provided by our proven GO technologies. Scan&GO enables techs to control the entire scan process via the integrated Touch UI and stay right next to the patient throughout the image acquisition process. After the scan the users have the possibility to check the images (Check&GO) before sending them to PACS. A dedicated Recon&GO functionality performs automated postprocessing and uploads the images to PACS without any user interaction. As a result, radiologists receive comprehensive results and consistent image quality. Together, these features make scanning intuitive and easy.

Radiation safety concept

Traditional stationary CT scanners require users to return to the control room during scan acquisition for radiation protection. SOMATOM On.site allows you to stay close to your patients and remain at their side during scanning.

The self-shielded scanner design, along with the detachable radiation shields covering the front and back of the gantry bore, reduce scatter radiation and provide protection for staff and neighboring patients.

Scan start position

Scan end position

Telescopic gantry for hassle-free acquisitions

SOMATOM On.site features a specially designed telescopic gantry with two independent gantry compartments. The rear compartment houses the tube and the detector and moves backwards during scan acquisition. The front part stays in place during scan acquisition, so the many lines and drains typically present in ICU patients are not affected during scanning with SOMATOM On.site. Thanks to this technology, the systems' trolley position remains fixed throughout the scan, eliminating common problems associated with scanners that may move during image acquisition. Taking scanner, table, and patient movement out of the equation means that you do not have to make any compromises when it comes to image quality.

Technical specifications

Key data

Slices	32
Z-coverage	24 mm (32 x 0.75 mm)
Detector material	Stellar detector UFC (Ultra Fast Ceramics)
Rotation time	1.0 s
Max. scan speed	36 mm/s

kV settings	80 kV; 120 kV
Current	up to 25 mA
Scanner dimensions (height / width / depth)	1.55 / 1.60 / 0.74 m
Iterative reconstruction	SAFIRE, iMAR
Scanner weight	~ 998 kg

CT imaging performance

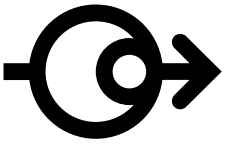
SOMATOM On.site delivers reliable and consistent image quality on a mobile CT scanner thanks to a combination of existing innovations from SOMATOM scanners (e.g., low-noise detectors) and newly designed components (e.g., the tube).

Stellar detector
SOMATOM On.site is the first mobile CT system outfitted with our SOMATOM Stellar detector. Stellar detector's technology helps to keep electronic noise low, increases dose efficiency, and improves spatial resolution. It's, high channel density and integrated design of the detector results in the grey-white matter differentiation that is crucial for evaluating CT scans of the head.

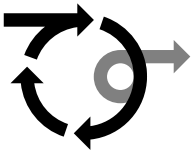
Dedicated X-ray tube
Our X-ray tube was designed specifically for neuro CT imaging. It features the resistance to vibrations and shock that is needed in mobile CT scanners. It is built to reduce maintenance downtime and improve performance in demanding environments. The cooling system is a special design combining water and air.

State-of-the-art image reconstruction algorithms

SOMATOM On.site incorporates iterative reconstruction algorithms to help you get the most out of your point-of-care CT scan.

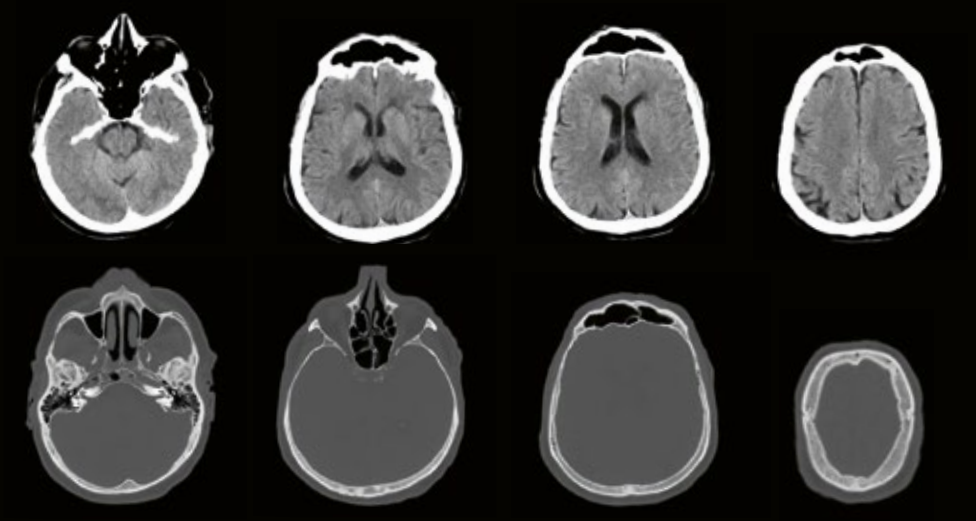


Metal artifact reduction with iMAR
iMAR (iterative metal artifact reduction) allows for reconstructed artifact reduction without losing valuable information. iMAR is designed to yield images with a reduced level of metal artifacts compared to conventional reconstruction if the underlying CT data is distorted by the presence of metal in the scanned object.

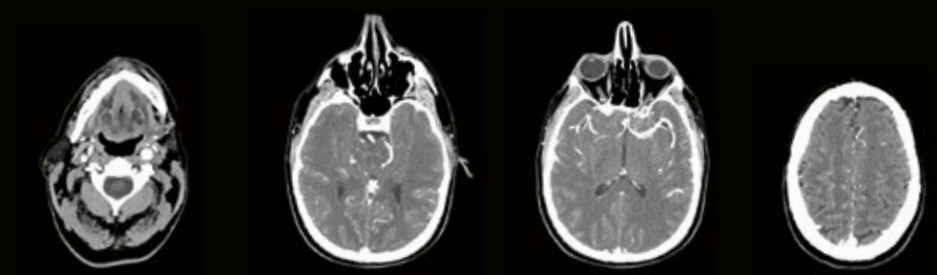


Noise removal with SAFIRE
This iterative reconstruction algorithm delivers natural looking images at the lowest possible dose. Multiple iterations are performed when processing the raw data. During these iterations the noise is reduced without compromising image quality.

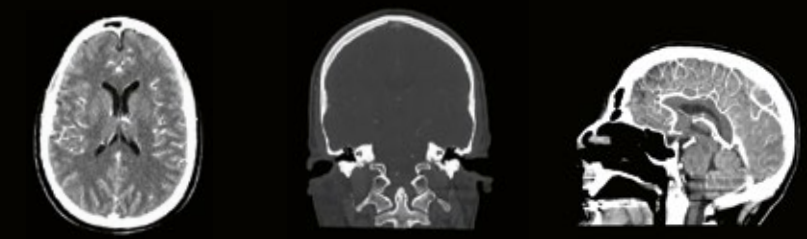
Imaging at the patient's bedside



Non-contrast CT images of the head with ALPHA* anatomy recognition technology

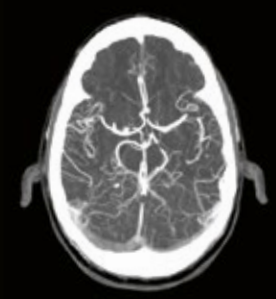


Delayed contrast media-enhanced examinations



All orientations and reformations PACS-ready

Apply known tools and applications



Maximum intensity projection (MIP), e.g., for intervention planning

Cinematic Rendering to enhance education and communication

** ALPHA = Anatomical Landmarking and Parsing of Human Anatomies*

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1 Data on file.

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