

Symbia TruePoint SPECT•CT

Working For You

www.siemens.com/medical

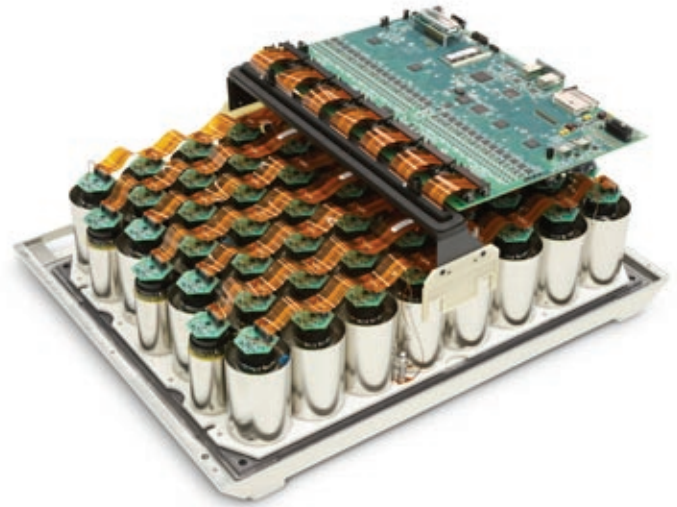
SIEMENS
medical

Work with confidence.

What does it mean to work with confidence? It's clarity—not only image clarity but the clarity of mind you can obtain from viewing images in which you have the highest measures of clinical certainty. Symbia ensures this clarity through its advanced HD detector, innovative bed design, BiCORE™ collimators with AUTOFORM® technology, and Flash reconstruction, and full diagnostic multislice CT capability. Additionally our global service network provides you the reliability you need to operate your practice with confidence.

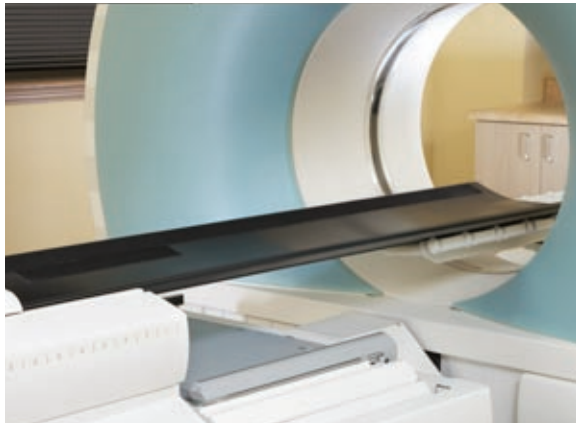
HD Detectors

Symbia's latest HD Detector technology offers outstanding and consistent image quality. The energy independent response of the highly integrated detector electronics eliminates isotope-specific floods. Real time corrections and individual photomultiplier tuning further minimize scheduled system calibrations and user interaction. Minimal cabling and fewer components improve reliability, and remote service access minimizes unexpected downtime.



UFC Detectors

Our proprietary Ultra-fast Ceramic (UFC) CT detector uses superior X-ray absorption, high light output and very short afterglow properties to produce stunning CT image quality. Compared to other detector materials, UFC has a much faster decay reaction, which enables the detector to measure more incoming photons per unit of time and contributes to improved image quality. This property, in combination with the short afterglow of UFC, allows very fast CT rotation times without an increase in image noise.



Innovative Bed Design

With its ultra-thin imaging pallet, the patient bed is not only easy for you to use, it is comfortable for your patients. The bed uses a 15 mm (0.6 in) thick carbon fiber pallet for minimal attenuation of the SPECT data and CT transmission X-ray and can handle a patient weighing up to 500 lbs. A complete set of arm and head rests further provides superior patient comfort and easy positioning. In fact, the lowest bed position guarantees easy access and even for patients with limited mobility.



Data courtesy
BC Children's Hospital,
Vancouver, Canada



Support You Can Rely On

Clinical confidence goes beyond working with trusted image quality. You not only need images you can believe in, you need a system you know will deliver them. Symbia systems combine the newest generation HD detector with an easy-to-use interface and control system to provide you with the reliability you need day in and day out.

Siemens Remote Service (SRS) enables our engineers to check your system status through full remote access. SRS can run remote diagnostics, download HD detector and control software, perform software fixes, and check virus protection. Monitoring and trending of key performance indicators allows proactive service planning. The result Siemens Remote Service program offers a short mean time to repair, and high first-time fix and remote-fix rates.

State-of-the-Art Reconstruction

A leading iterative SPECT reconstruction method, Flash significantly improves image quality. How? Reconstruction image fidelity depends on the accuracy of the physical models used in image formation. With *onco•Flash* and *cardio•Flash*, you start the ground running with higher spatial resolution, reduced distortion, and reduced artifacts. As a result, Flash images are more accurate and easier to interpret.

CARE Dose4D

The CARE Dose4D feature utilizes an advanced computing technique that provides real-time dose modulation of the X-ray tube current according to the precise shape of the patient's body during both spiral and sequential scanning. It reduces the patient dose for low attenuation views, while the dose is kept at a nominally higher mA for high attenuation angles. From the initial topogram, a base mA setting is determined.

SPECT•CT University

Take advantage of the ultimate SPECT•CT training resource for the interpreting physician, referring physician, and technologist. SPECT•CT University clearly demonstrates the benefits of hybrid imaging, including when and how SPECT•CT influences patient management.

- Detailed case studies by interpreting and referring physicians are available for review
- Comprehensive video lectures teaching key points
- Key reference articles on molecular imaging
- Imaging protocols cover pertinent information
- Diagnostic algorithms outline a proposed management of patients with molecular imaging



Accelerate your workflow.

Operational costs and workflow. Diagnosis and treatment. Time affects every aspect of your daily imaging from your patients' well-being to your staff's efficiency. Designed with these needs in mind, Symbia's automation and fast image acquisition enable you and your staff to perform at imaging speeds that may have been previously unattainable—which leads to the opportunity to provide faster patient diagnosis and treatment and to support increased patient volumes.

Integrated Collimator Changer

By integrating the collimator changer into the system, Symbia eliminates the need for a collimator cart by providing a storage area underneath the patient bed for both low and medium energy collimators. Initiated from the touch-screen patient positioning monitor, the integrated collimator changer (ICC) features automatic collimator attachment as well as robotic detector positioning.

ICC Benefits:

- Saves space
- Easy to use
- Eliminates risk of damage
- Faster changing
- Safe for the operator



Automated Collimator Changer

The automated collimator changer (ACC) provides a motorized collimator motion to the integrated collimator changer.

In addition to the ICC benefits, ACC provides the user:

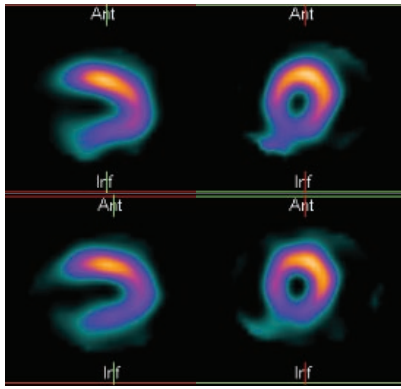
- More time to perform other tasks
- More scheduling flexibility



Internal ECG

Symbia's integrated ECG eliminates the need for a separate ECG box and monitor, so no additional space is needed for extra equipment. This further ensures a safer work environment by eliminating external wires.

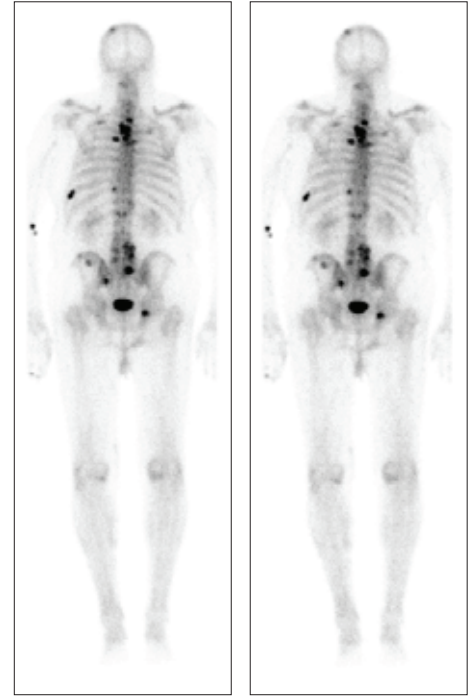
Data courtesy of Iowa Heart Centre Des Moines, IA



Full Time FBP

Half Time with cardio•Flash

Data courtesy of Geisinger Health System Foundation, Danville, PA



Half Time Whole-Body with onco•Flash

Full Time Whole-Body FBP

Fast Image Acquisition

Imagine acquiring images in half the time while obtaining quality as good as or better than full-time images reconstructed the conventional way. Is this possible? It is *onco•Flash* and *cardio•Flash*, key features of the Symbia system. Flash technology restores image quality from count-reduced patient scans acquired in less time or with lower injected dose. Perform planar, whole-body and SPECT studies with Flash and achieve better image separation, better resolution, and better contrast.

Automated Quality Control



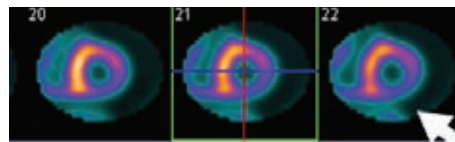
With automated daily, weekly, and monthly quality control (QC), you can take comfort in the knowledge that QC is performed routinely and consistently. Automatic Quality Control (AQC) automatically starts the specified QC tasks so they are finished before your first scheduled patient arrives. AQC uses built-in shielded sources: A point source for peaking and tuning, a line source for extrinsic flood, and a sleeve with five slits for center of rotation and multiple head registration. The process finishes

with a report of the completed QC results and integrates with SRS.

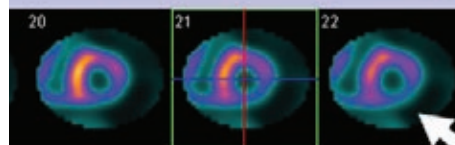
ACC Benefits:

- Reliable, consistently reproducible QC
- Performance trending
- Eliminated risk of spillage with open sources
- Operator dose reduction
- Remote Service Access monitoring to prevent unscheduled downtime

AC



Non AC



Data courtesy of University of Michigan, Ann Arbor, MI

Attenuation Correction

Symbia's TruePoint SPECT•CT technology reduces exam time and motion artifacts. Less than 30 seconds is added to any SPECT study for accurate attenuation correction and to obtain diagnostic quality anatomical maps.

Experience versatility.

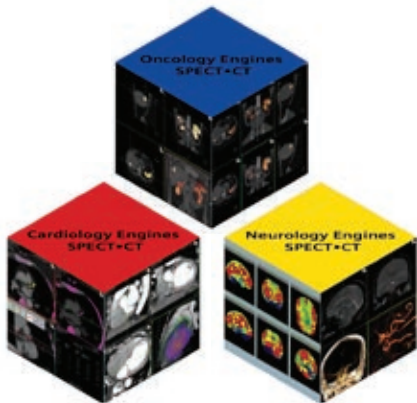
Confidence and speed can only take you so far. In the healthcare industry, the ability to do more with less is often a call to action for operational and departmental managers. To help, Symbia provides you with the clinical flexibility to manage your entire workflow, integrate and customize clinical applications, and easily upgrade to the next level of SPECT•CT imaging.

syngo

An intelligent post-processing workplace, *syngo*® integrate your entire workflow from order and scheduling to imaging, viewing, reporting, and distribution. This integration enables a high level of interoperability, flexible staff use, shorter training, and, ultimately, reduced costs. You can combine multiple tasks into one and bring together all of the solutions that are critical to you and your patients. With easy access to all patient data from anywhere and support for more than 50 different *syngo* applications, you have the solution you need for diagnostic and therapeutic cycles.

Clinical Engines

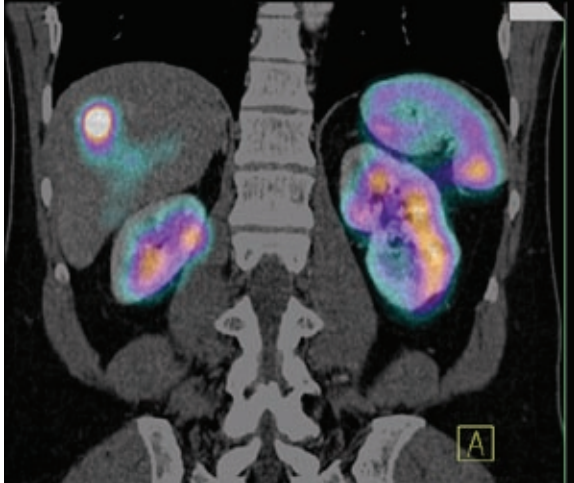
Clinical engines are a unique combination of software applications with a disease orientated focus. They provide clinical workflows for oncology, cardiology and neurology and each of these is available in three levels of increasing functionality. Depending on your patient volume you can mix and matchologies and levels to meet your specific needs.



Bariatric Imaging

Imaging bariatric patients can prove difficult on some equipment. Designed for patient comfort and quality images, Symbia offers a 250 kg (500 lb) patient weight limit, 70 cm (27.5 in) tunnel opening, and 200 cm (6 ft 7 in) maximum scan length—all of which enable you to image larger patients with ease. In addition, the patient bed lowers to a convenient 53 cm (21 in) for easy patient access even for patients with limited mobility.





Data courtesy of Radiology Clinic Parkway Hospitals, Singapore

Diagnostic CT

By providing both diagnostic CT and SPECT studies in a single system, Symbia makes exams easier on patients, preventing days or weeks of uncertainty as they wait for test results. Perform three different types of imaging studies—SPECT, multislice-CT, and SPECT•CT—separately or together to achieve 100% modality utilization. Acquiring multiple studies during one patient visit enhances therapy planning, speeds exam time, and increases comfort and convenience for patients. TruePoint SPECT•CT acquires CT data in less than 30 seconds—a fast scan time that reduces motion artifacts. The high quality of this CT data improves attenuation correction accuracy for cardiology as well as general SPECT applications while CARE Dose4D allows you to minimize patient dose. The potential to detect disease at its earliest stages, combined with unmatched workflow efficiency gives you an unparalleled combination.

Upgradeability

Siemens can add TruePoint SPECT•CT to your Symbia S in 24 hours right in your lab. You can also upgrade from one model of Symbia SPECT•CT to any of the higher performance models with more CT slices. So, regardless of where you start with Symbia, Siemens lets you grow with your clinical needs and provides investment protection and non-obsolence.

Detector Flexibility

To complete Symbia's full range of versatility, the detector heads easily rotate into numerous positions including caudal/cephalic tilt offering comprehensive imaging positions for general purpose, cardiology, oncology, and neurology studies. Together, these features enable faster set-up and image acquisition and make a whole range of otherwise difficult scans possible.

You can perform:

- Planar imaging of ambulatory, wheelchair, and gurney patients
- Cardiac SPECT on all patient sizes
- 180° whole-body and SPECT scans
- Imaging of thyroid, and small structures with pinhole collimator
- Outer room position for standing and sitting patients



Symbia S



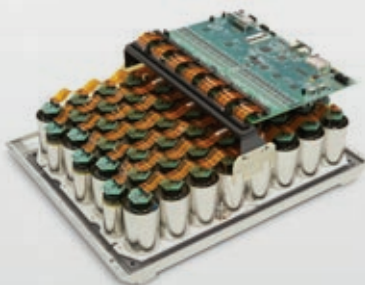
Intuitive hand controller
Easy to use with backlit icon

Autocontour
Infrared body contour system minimizes patient-to-detector distance and reduces patient set-up time



Open Gantry
Patient friendly gantry design with 102 cm x 78 cm (40.2 x 30.7 in) opening

HD Detector
High definition digital detectors provide energy independent performance



Automated Collimator Changer (ACC)
Completely automatic functions including motorized collimator motion initiated from the patient positioning monitor



Patient Positioning Monitor
Self-guided touch screen user interface with configuration icons and the optional e.media entertainment system



Internal ECG
Patient lead input for integrated ECG



Innovative Bed Design
Low patient bed for easy access with ergonomic patient comfort accessories and an ultra-thin pallet for improved image quality.



Automated Quality Control (AQC)
Built-in point and line sources for fully automated quality control

Symbia T



Intuitive hand controller
Easy to use with backlit icon

Open Gantry
Patient friendly integrated gantry design with 70 cm (27.5 in) opening for greater patient comfort



Rear Bed
Rear bed with two positions to eliminate registration arrows between CT and SPECT modes



Autocontour
Infrared body contour system minimizes patient-to-detector distance and reduces patient set-up time



HD Detector
High definition digital detectors provide energy independent performance



Automated Collimator Changer (ACC)
Completely automatic functions including motorized collimator motion initiated from the patient positioning monitor

CT Window
Circular slit for X-ray field of view

Breath Hold Indicators
For ease of use in CT studies



Patient Positioning Monitor
Self-guided touch screen user interface with configuration icons and the optional e.media entertainment system



Automated Quality Control (AQC)
Built-in point and line sources for fully automated quality control



Internal ECG
Patient lead input for integrated ECG



Innovative Bed Design
Low patient bed for easy access with ergonomic patient comfort accessories.

Conformance to Standards

The Symbia family conforms to the Medical Device Directive Quality System and the Essential Requirements of the Medical Device Directive. The product is designed and tested for safety in accordance with IEC 60601 and for Electro-Magnetic Compatibility (EMC) in accordance with the European Union's EMC Directive, 89/336/EEC. Labeling for these requirements as well as ISO 9001 and Class II Laser Product appears at appropriate locations on the product and in its literature. The software is DICOM compliant. The scanner is CSA compliant.

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