

Intraoperative case studies

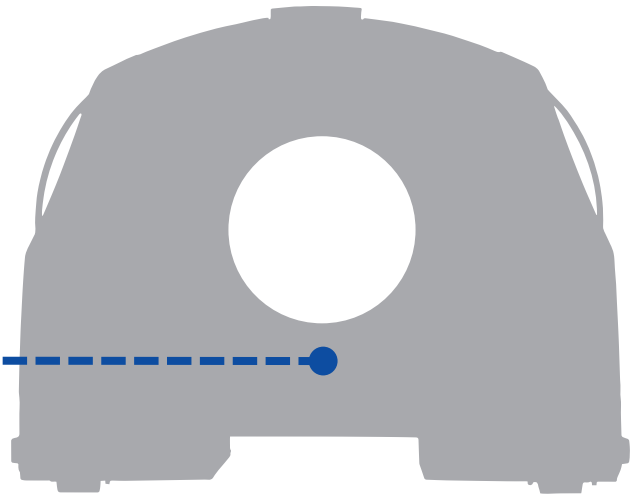
Portable full body 32-slice CT scanner

BodyTom[®]



Point-of-care CT imaging

Your *multi-departmental* imaging solution



Orthopedic surgery

- Arthroplasty
- Musculoskeletal disorders
- Hip replacement
- Acetabular fracture
- Knee replacement
- Fractured femur
- Pelvis
- Pediatric orthopedic procedures

Neurosurgery

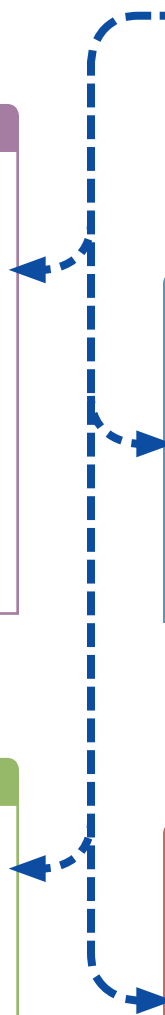
- Tumor resection
- Neurovascular surgery
- Functional and stereotactic neurosurgery
- Pediatric neurosurgery

Spine surgery

- Neuromuscular scoliosis
- Cervical, thoracic and lumbar fusions
- Laminoplasty
- Laminectomy
- Vertebroplasty
- Kyphoplasty
- Pediatric spine surgery

Trauma surgery

- Acute fracture care
- Accident victims
- Intestinal injuries
- Head-to-toe assessment
- Pediatric trauma surgery



Cranial case study

Framed stereotactic bilateral deep brain stimulator placement

Case details

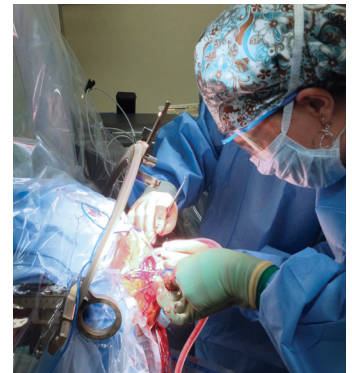
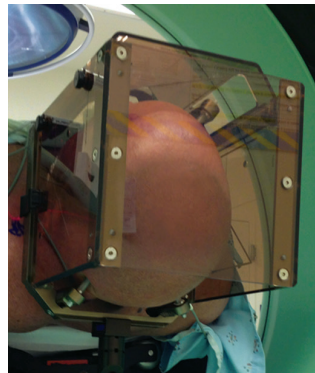
- 58-year-old male undergoing bilateral lead placement to control medically resistant symptoms of Parkinson's Disease
- Rigid fixation and surgical navigation using a Leksell® Coordinate Frame G Stereotactic system

BodyTom intraoperative use

- Initial intraoperative CT was acquired and immediately transferred to surgical planning station for calculation of target coordinates
- Sterile drape applied to BodyTom to maintain the surgical barrier
- Final intraoperative CT was acquired to confirm placement
- Total scanning process took less than 15 minutes, including draping, scanning and image transfer to the navigation system

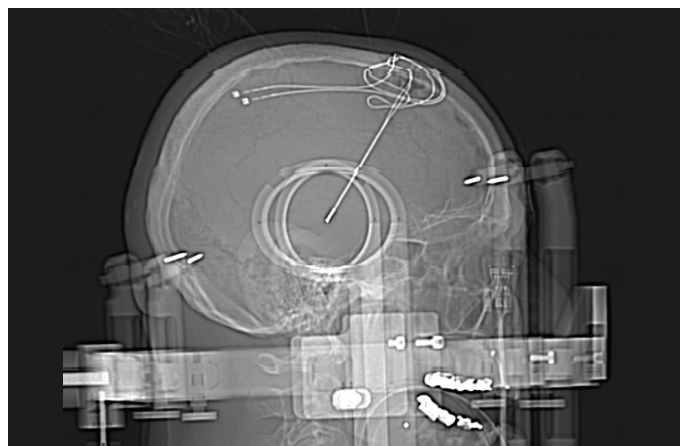
Clinical benefits

- CT scans were acquired directly in the operating room, minimizing disruption due to patient transport
- Pre-operative target plan was compared directly with actual placement prior to removing patient from the operating room
- Intraoperative CT allows for the procedure to be conducted while the patient is fully or partially sedated



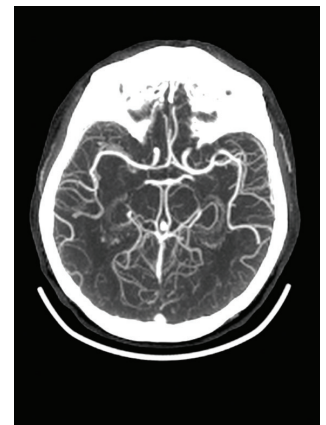
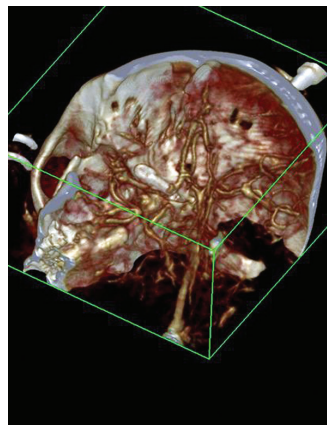
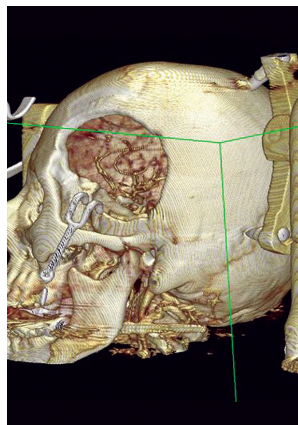
Pre-op CT scan

Intra-op confirmation



Low dose scout scan

Cranial case study



Intraoperative CT angiography

Intraoperative CT angiography for PCOM (posterior communicating) aneurysm clipping

Case details

- 66-year-old male presenting with unruptured posterior communicating artery (PCOM) aneurysm that required surgical intervention
- Patient fixated with rigid radiolucent skull clamp
- Real-time intraoperative surgical navigation was utilized

- A second intraoperative CTA was performed after clipping the aneurysm to evaluate surgical completion and check for hemorrhage
- Immediate review of the images in sagittal, coronal, and 3D views on the BodyTom workstation
- Total intraoperative scanning completed in less than 5 minutes including contrast injection

BodyTom intraoperative use

- Patient was injected with contrast for intraoperative CTA to identify aneurysm location and plan the surgical approach

Clinical Benefits

- Intraoperative CTA enables immediate evaluation of vascular structures and assessment of clipping

Spinal case study

Navigated spinal fusion (T2-sacrum) for neuromuscular scoliosis

Case details

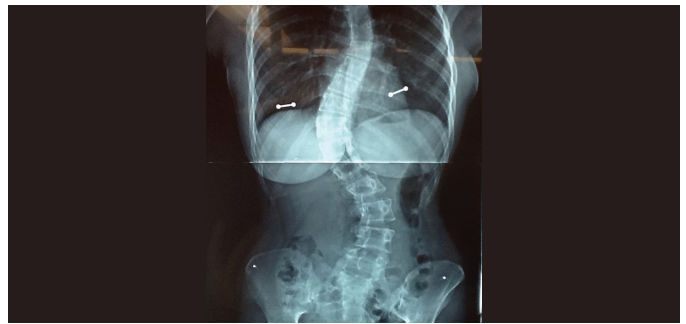
- 23-year-old female with Neuromuscular Scoliosis
- Patient was wheelchair bound before the surgery

BodyTom intraoperative use

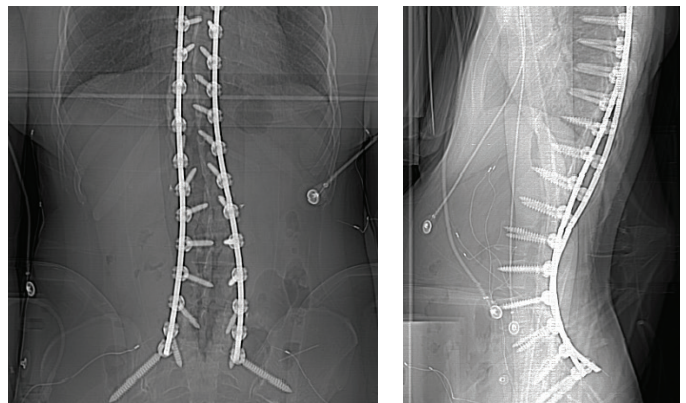
- Patient was positioned head first prone on the INSITE® multi-procedural table
- Standard midline approach to fully expose the surgical site to allow for decompression of the spine
- Lateral and PA scouts were obtained intraoperatively followed by a full spine CT scan which was transferred directly to the navigation system
- The patient was registered successfully and 32 screws were placed using surgical navigation
- Final lateral and PA scouts were obtained with a full intraoperative CT scan for procedural confirmation
- Each series of scouts and CT scan took less than 15 minutes from scan setup to resuming the operation

Clinical benefits

- The full spine was imaged in one fast acquisition allowing for minimal disruption to the surgery
- Scout images were used to compare pre-operative images to intraoperative results immediately in the procedural room
- Final intraoperative scan confirmed proper pedicle screw placement along with substantial correction of spinal deformity



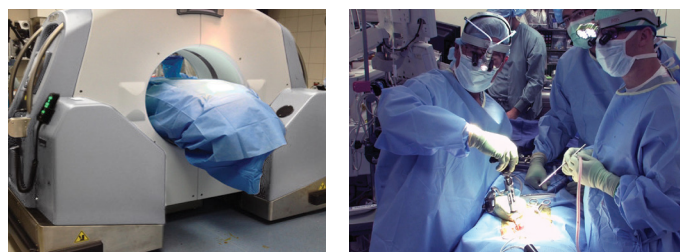
Pre-op x-ray



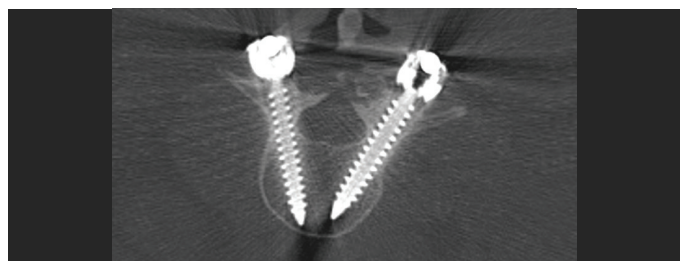
Intra-op PA and lateral scout scans



Screw placement

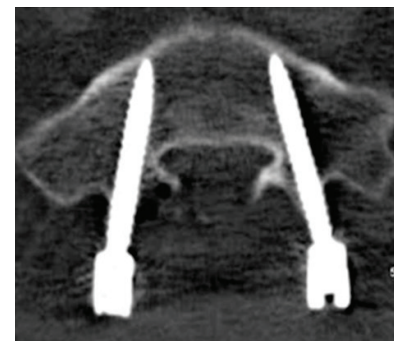
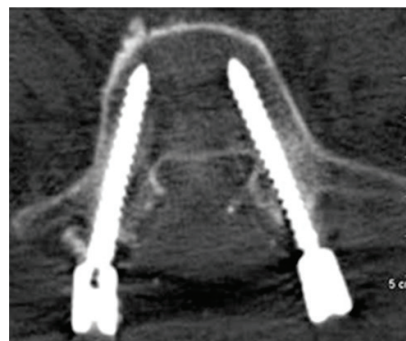


Fast intra-op scanning



Intra-op confirmation

Spinal case study



Intra-op CT confirms the correct pedicle screw placement

Navigated posterior lumbar interbody fusion (PLIF)

Case details

- 58-year-old male presenting lumbar disc degeneration with loss of height and instability
- Surgical navigation used to guide L3-L5 pedicle screw placement with interbody fusion cages

BodyTom intraoperative use

- Initial intraoperative CT was acquired and immediately transferred to surgical navigation system
- Dynamic reference frame (DRF) was attached to the spinous process to maintain dynamic registration
- Proceeded with image guided navigation during the screw placement

- Final intraoperative CT acquired to confirm correct alignment through the neck of the pedicle
- Total scanning process took less than 15 minutes, including draping, scanning and DICOM image transfer to the navigation system

Clinical benefits

- Intraoperative CT-based navigation ensures correct implant position
- Surgeon closed the procedure with higher degree of confidence in surgical accuracy
- Post-operative CT scan performed prior to case conclusion versus next day on fixed scanner

Core system

BodyTom point-of-care portable CT scanner

BodyTom brings the power of innovative imaging to the bedside. As the world's first portable full body 32-slice CT scanner, BodyTom is capable of transforming any room into an advanced imaging suite.

Uniquely designed to accommodate patients of all sizes, BodyTom provides point-of-care CT imaging wherever high quality CT images are needed.



BodyTom portable imaging station

BodyTom's portable imaging station has advanced visualization software allowing for 2D, 3D and MPR viewing. With its wireless communication capability, BodyTom easily integrates with hospital information systems, surgical navigation, and other technology platforms (optional).

On-board lead shielding provides additional protection for the workstation operator.



Internal drive system

BodyTom's internal drive system allows a single operator to transport and setup the scanner anywhere it needs to go. Hospital corridors are easily navigated using the 130° wide-angle camera.



About NeuroLogica

NeuroLogica, a subsidiary of Samsung Electronics Co., Ltd., brings the power of innovative imaging to your patients.

With a strong foundation of expertise in CT design, development and manufacturing, NeuroLogica transforms fixed CT technologies into portable platforms.

For more information

For more information about BodyTom®, visit www.NeuroLogica.com



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