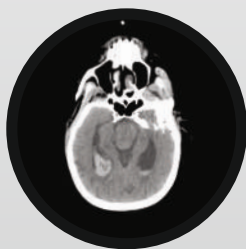


# OmniTom<sup>®</sup> Elite

Bringing the Power of Imaging to your Patient



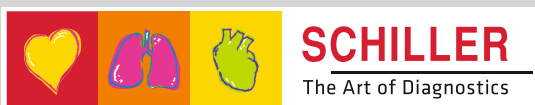
High Resolution CT Imaging  
Customizable Noise Reduction



Intuitive Workflow Interface  
Designed for the User



Automatic Bed Alignment  
SmartAlign with the push of a button

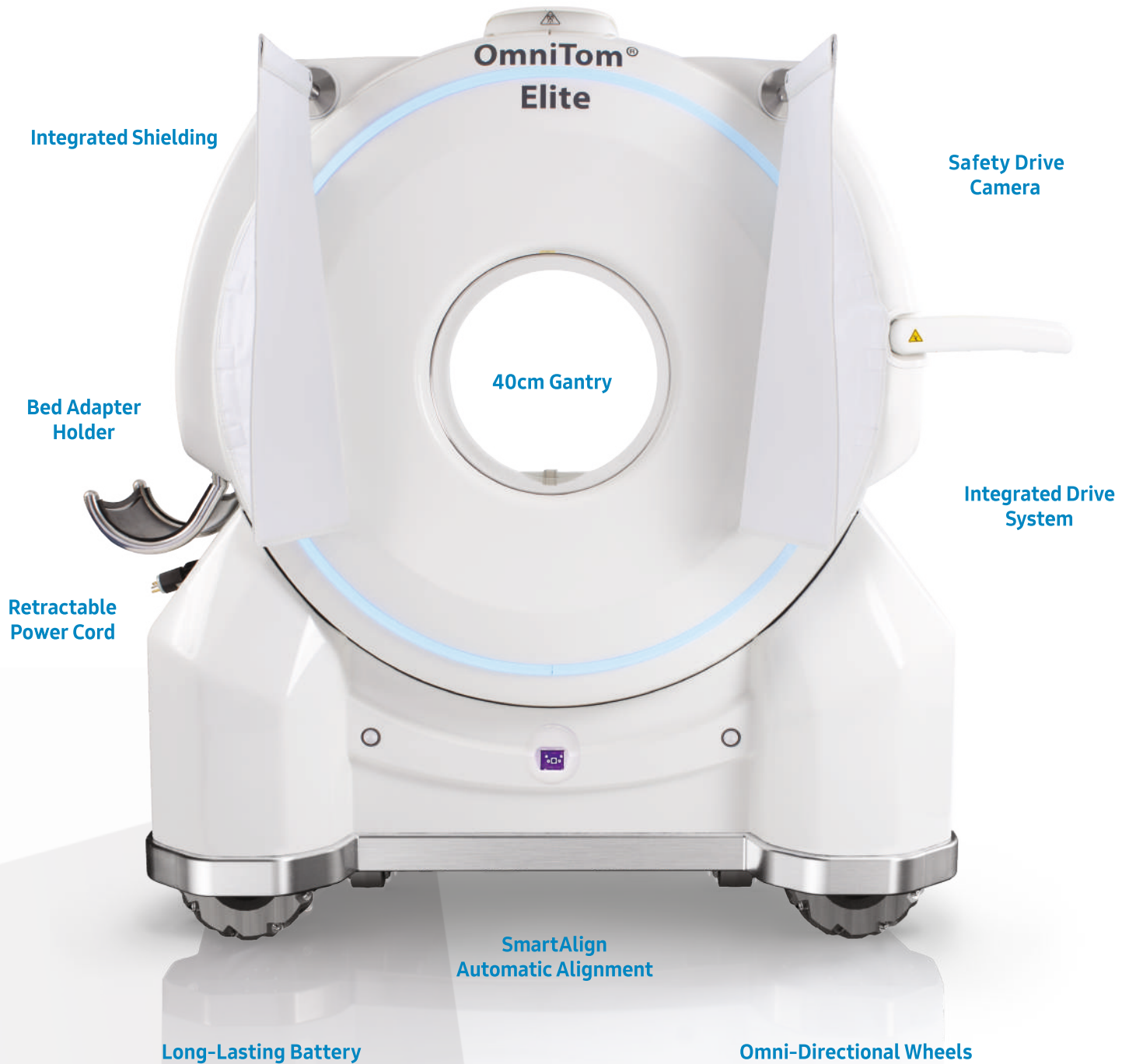


# OmniTom® Elite



The OmniTom® Elite 16-slice mobile CT scanner delivers high-quality non-contrast CT, CT angiography, and CT perfusion scans at the point-of-care. The long-lasting battery is easily charged using a standard wall outlet, allowing for easy storage and transportation throughout your facility.

# Get to know OmniTom<sup>®</sup> Elite





**Retractable Lead Curtain**



**Scan Board Storage**



**Handheld Operator's Console**

## Product Features

### High Image Quality

- 16-Slice
- 0.625mm Detectors
- Customizable Noise Reduction

### Enhanced Safety System

- Reduces Need for Transport of the Patient
- Internally Lead Shielded Front Cover
- Drive Camera
- Smart Sensing Collision Avoidance
- HIPAA Compliant

### Advanced Features

- Ultra-low Electronic Noise System
- 24-Bit Lossless Image Processing
- CTA and CTP Capabilities

### Intuitive Design

- Omni-Directional Wheels for Transport
- Integrated Drive System
- SmartAlign - Automatic Alignment
- Modern Touchscreen with Windows OS
- Integrates with ICU Beds and Hospital Gurneys
- Optional Intraoperative Head Clamp
- Dual Sided Controls and Tablet Storage

### Mobile

- Battery Powered
- Charges at a Standard Wall Outlet
- Wireless Connectivity to PACS and HIS/RIS

## Product Dimensions

- Height: 59.6 in (151.3 cm) Scan Mode
- Height: 61.6 in (156.6 cm) Transport Mode
- Length: 65.4 in (165.2 cm)
- Width: 29.9 in (75.95 cm)
- Weight: 1700 lbs (726 kg)



**Safety Drive Camera**

# OmniDirectional Design

Easily Moved to Where it's Needed Most

## Integrated Drive System

The OmniTom® Elite is the world's first medical device with an omni-wheel allowing for intuitive lateral, diagonal, and 360° movement. The integrated drive system and small footprint allows for easy maneuvering throughout your facility while the depth sensing camera with alarm, alerts for safer transportation of the scanner.

## SmartAlign

Integrated camera allows the scanner to auto-align with the patient's bed at the touch of a button. Allowing for easier set-up in small rooms, while reducing image artifacts.



# OmniCompetent

OmniTom® Elite goes where it is needed the most, to your patient. Make OmniTom® Elite Your Facility-wide solution.



## Critical Care

“Clearly, the ability to image patients at their point-of-care in the ICU will facilitate rapid clinical decision-making and reduce the risks associated with transport...by reducing staff and time requirement for transport, the portable scanner may achieve annual cost savings of \$162,512. Equally as significant, having a scanner dedicated for ICU patients allows for the conventional scanner to perform an additional 1182 outpatient studies each year. Together taken, the introduction of the portable scanner may offer a net economic benefit of \$264,658 in the first year of its operation and a total benefit over 5 years greater than \$2,619,000.”<sup>1</sup>

## Operating Room

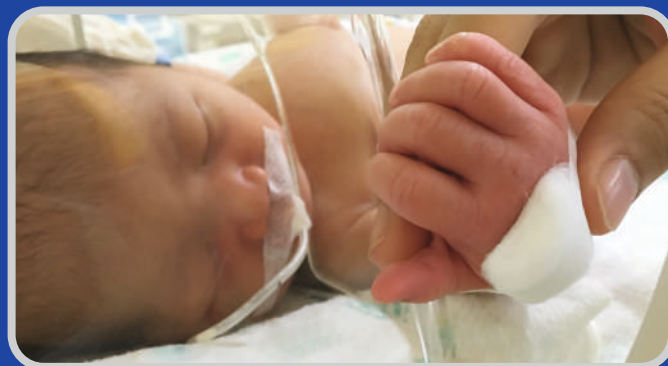
“Intraoperative portable-head CT leads to change in operative plans in 32% of selected cases. This potentially avoids return to the operating room and can diagnose or rule out remote lesions in need of additional intervention. The portable configuration allows for increased versatility and cost-effectiveness compared to fixed systems.”<sup>2</sup>

## Pediatric ICU

“Two-thirds of CT scans obtained in the PICU were portable because of patients’ intensity of therapy and illness severity. Portable CT showed major new pathology in greater than 1/3 and led to a change in management in 1/4 of higher acuity patients scanned. The estimated radiation dose from portable CT is within the current national guidelines.”<sup>3</sup>

## Trauma

“After our preliminary experience, we suggest performing iCT in all cases of acute brain trauma needing surgical decompression or hematoma evacuation to rule out postoperative complications such as diffuse brain edema, newly occurring hemorrhages or hematomas, acute hydrocephalus etc. Rapid radiological evaluation of any pathological condition can be done directly in the OR this way, permitting prompt action and avoiding severe consequences.”<sup>4</sup>



# Advanced Imaging

Rapid Scans Right at the Point-of-Care

## Reduce Artifacts

The highly advanced N-DAS detectors are built within a temperature regulated housing that helps maintain calibration between scans. An all new translation system for scanning, tracks the movement of the OmniTom® Elite with submillimeter accuracy.

## Balance Dose Efficiency and Image Quality

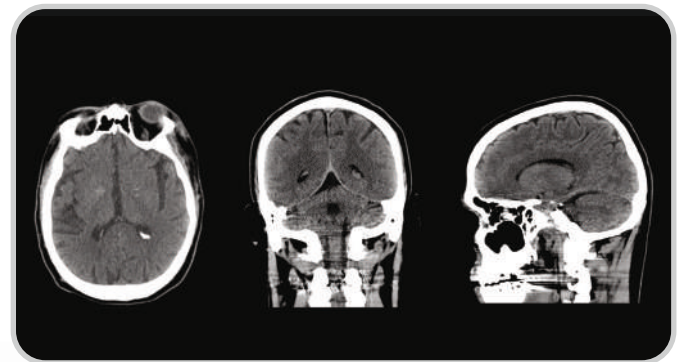
The combination of an ultra-low electronic noise detector and a 24-bit lossless imaging chain reduces artificial image noise created by electronics. OmniTom® Elite is proud to support MITA smart dose and is XR-29 compliant with structured dose reporting and standardized protocols. Automatic Exposure Control (AEC) provides mA modulation during helical and axial scanning in order to regulate dose and image quality.

## Maximize Workflow Efficiency

Perform CT angiography and CT perfusion at the bedside. Automatic bolus tracking helps to maximize workflow efficiency.

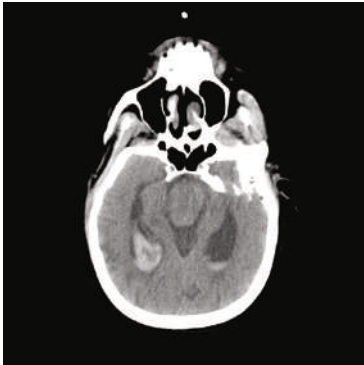
## Advanced Reconstruction at your Fingertips

Fully featured advanced reconstruction for 3D and multiplanar reformation including average, minimum and maximum intensity projection, and oblique datasets.

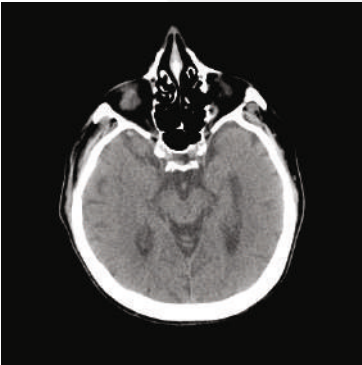


Above features may not be available in some countries.

# Image Gallery



Adult Bleed



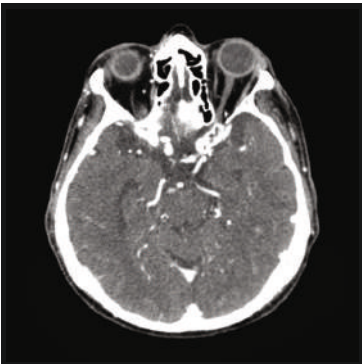
Adult Neuro



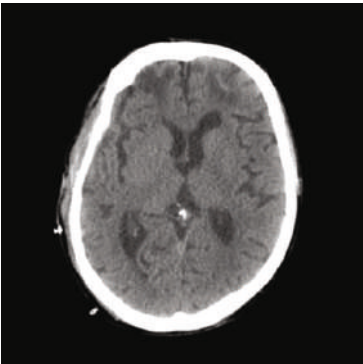
CTA



Coronal CTA



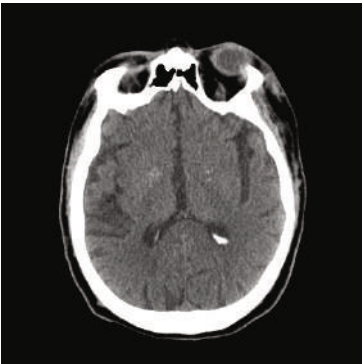
CTA



Adult Craniectomy



Sagittal CTA



Stroke



Adult Lower E tremity

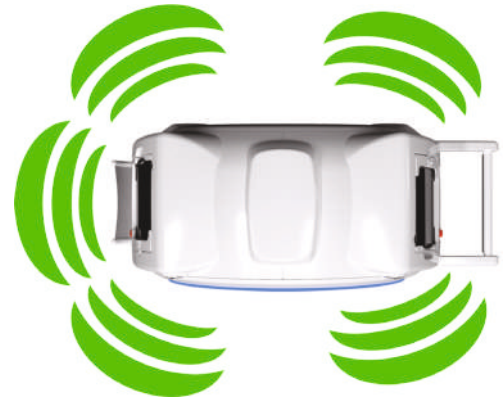
# Safe and Secure

The OmniTom® Elite brings safety and security to the forefront of any facility. Implementing the latest technology with high-tech sensors, a driving camera which allows the driver to avoid hazards, and automatic alignment which helps to ensure the OmniTom® Elite is positioned properly at the head of the bed.

The internal lead shielding on front cover and external lead-free curtains help reduce the risk of exposure to scattered radiation for staff and adjacent rooms. With the removable bed adapter or silhouette scan board, the OmniTom® Elite can accommodate almost any size patient, while having them optimally positioned for the scan.

## Omniscient to 270°

The combination of a forward facing drive camera and the S-Alert smart sensor system helps to visually and audibly warn the user of upcoming obstacles and allows them to avoid incident. Visual and audible cues alert the user and surrounding staff of when a scan is starting and when X-rays are being produced.



## Patient Safety

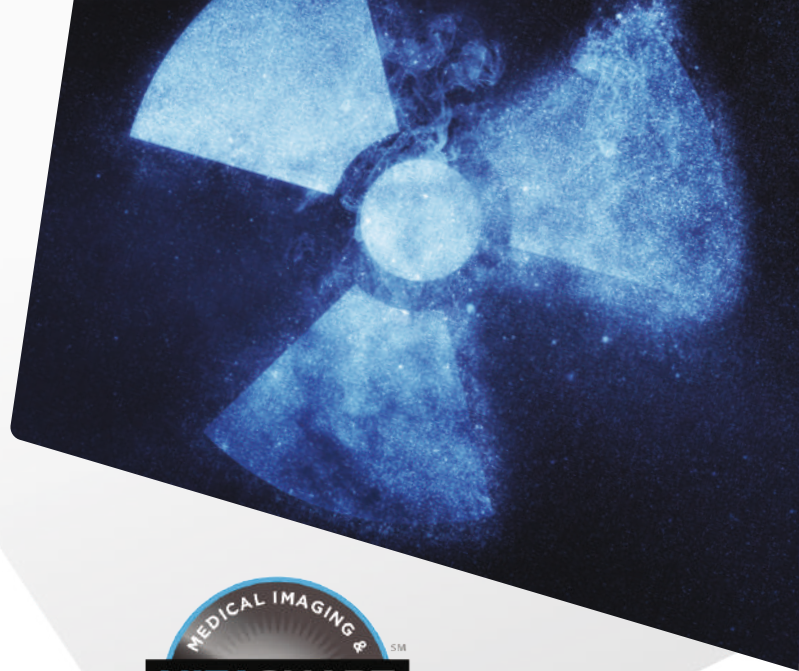
Specialized radiolucent scan platforms have been designed for point-of-care usage. The ICU platform is securely attached to the head of the patient's ICU bed and allows for artifact free, isocentric imaging of the head and neck for any size patient. Neonatal patients can be safely scanned on the standalone pediatric cradle.



# Radiation Safety

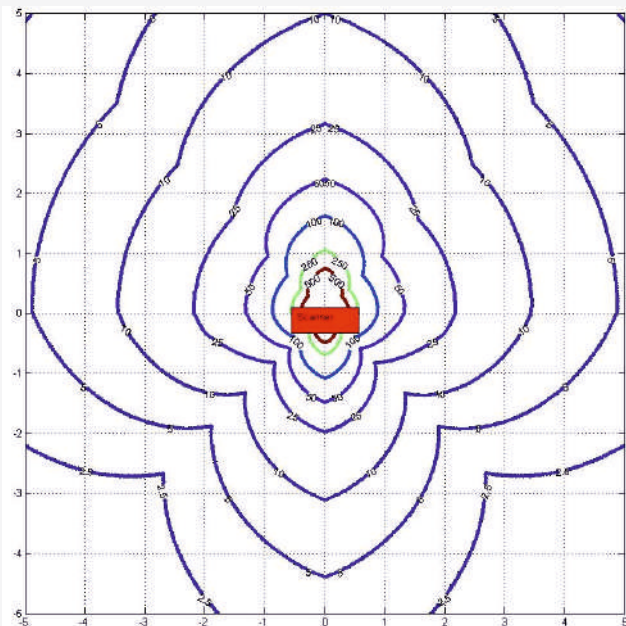
## Safe for Staff

According to the ALARA standard 500mRem/year per operator and using a typical brain scan protocol at a distance of 2 meters (6 feet) from the OmniTom's isocenter, your operator can perform over 26 scans per day, for 250 days per year without any additional lead protection. The OmniTom® Elite front cover is internally coated with 0.3mm laminated lead providing maximum scatter reduction. In addition, 2 externally mounted 0.5 Pb equivalent curtains in the front and one .25mm in the back provide added shielding to the gantry.



## Safe for Patients

OmniTom e ceeds the American College of Radiology's recommended guidelines for Computed Tomography Dose Index (CTDI). It is compliant with NEMA XR-29 and MITA Smart Dose, offering radiation dose structured reporting, pediatric & adult reference protocols, CT dose check, and automatic exposure control.



Exposure isolines for 120, kVp, 25 mA  
Front and Back Curtains closed,  
No Patient Absorption

Measurement in  $\mu\text{R}$

OmniTom® Elite scatter data was acquired using the CTDI 16cm head phantom with the back curtain closed and the front curtains partially closed. The data was measured using a scan protocol with 120 kV, 25 mA and 2 second scans. The iso-dose curve are presented in  $\mu\text{R}$  per scan. The data can be converted to  $\mu\text{Rem}$  by using the multiplication factor 0.87.

(Radcal Corp., 20X6- 1800 1800 cc probe, 2026C meter)

# Protect Sensitive Information

The OmniTom® Elite's hardware is equipped to deal with the most demanding FDA and hospital guidelines for data and communication encryption. Patient data is protected at all times with secure erase features, limited stored information on the control tablet, and location tracking for lost or stolen equipment.

## Secure your Care

Cybersecurity in healthcare poses a unique challenge – highly sensitive patient information may become direct targets of attacks. To address this need for cybersecurity, NeuroLogica provides a solution to protect against cyberthreats that may compromise patient data and ultimately degrade the quality of care. NeuroLogica's Cybersecurity Solution strives to abide by the CIA triad (Confidentiality, Integrity, and Availability) and takes a comprehensive approach to providing protection with the following pillars: Intrusion Detection, Access Control, Data Protection, and Vulnerability Assessment.



### Intrusion Detection

#### Antimalware

Security tools such as antimalware and firewalls are required to effectively reduce security threats. Antimalware software protects against infections caused by many types of malware, including all types of viruses, as well as rootkits, ransomware and spyware. The firewall provides a means to filter network operations and traffic on the system.

#### Operating System Safety

NeuroLogica's CT devices use Windows 10 and Ubuntu operating systems (OS). The OS provides the ability to establish a user interface, and execute and provide services for running the scanner. Neurologica blocks unnecessary OS services, shared resources, and user accounts to minimize security threats.



## Data Protection

### Data Encryption

To prevent unauthorized access to sensitive data, Neurologica has implemented "data-at-rest" encryption. CT medical devices store all patient information in an encrypted format. Disk encryption is primarily used to encrypt the entire storage, requiring a passphrase to access the system.



## Access Control

### Account Management

NeuroLogica's CT medical devices provide role based authentication to ensure that users have access to only the necessary functions needed for their role. User management functions such as complex password settings, account lockouts, and password expirations encourage safe user account management.

### Audit Trail

NeuroLogica's CT medical devices track user activities performed on the devices in order to aid in the investigation of cybersecurity threats. The audit trail records major security logs such as user login info, creation and modification of patient information, as well as several other user activities.



## Vulnerability Assessment

### Vulnerability Scans

Neurologica uses monthly vulnerability scans to discover any vulnerabilities or exploits associated with the device. Issues discovered are resolved and addressed in future software releases.



NeuroLogica, the healthcare subsidiary of Samsung Electronics Co., Ltd., develops, manufactures, and markets innovative imaging technologies and is committed to delivering fast, easy and accurate diagnostic solutions to healthcare providers. NeuroLogica, the global corporate headquarters and manufacturer of mobile computed tomography, is also the US headquarters for sales, marketing and distribution of all Samsung digital radiography and ultrasound systems. NeuroLogica's growing portfolio of advanced medical technologies are used worldwide in leading healthcare institutions helping providers enhance patient care, improve patient satisfaction, and increase workflow efficiency. Samsung is committed to being leaders in the field of healthcare imaging.

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- 1) Masaryk, Thomas J, Renee Kolonick, Tracy Painter, and David B Weinreb. "The Economic and Clinical Benefits of Portable Head / Neck CT Imaging in the Intensive Care Unit." *Radiology Management* 30, no. 2 (2008).
- 2) Carlson, Andrew P, Jeremy Phelps, and Howard Yonas. "Alterations in Surgical Plan Based on Intraoperative Portable Head Computed Tomography Imaging." *Journal of Neuroimaging : Official Journal of the American Society of Neuroimaging* 22, no. 4 (October 2012): 324-28. doi:10.1111/j.1552-6569.2011.00580.
- 3) LaRovere, Kerri L, Molly S Brett, Robert C Tasker, Keith J Strauss, and Jeffrey P Burns. "Head Computed Tomography Scanning during Pediatric Neurocritical Care: Diagnostic Yield and the Utility of Portable Studies." *Neurocritical Care* 16, no. 2 (April 2012): 251-57. doi:10.1007/s12028-011-9627-3.
- 4) Taddei, Graziano, Alessandro Ricci, Francesco Di Cola, Giuliano Maselli, Sara Marzi, and Renato J Galzio. "The Usefulness of Intraoperative Mobile Computed Tomography in Severe Head Trauma." *Neurosurgery* 23, no. 3 (January 2013): 401-3. doi:10.5137/1019-5149.JTN.5474-11.0.

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1-NL5000-117rev00

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know more



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