



ENGLISH

Planmed Verity



True Dedication

The new Planmed Verity™ Extremity CT Scanner revolutionizes extremity CT imaging. The compact unit brings 3D imaging at emergency departments, orthopedic clinics or trauma centers for fast diagnoses at the Point-of-Care.

Superior image quality serves radiologists, orthopedists, and extremity specialists all alike. With surprisingly low radiation dose of only one tenth of that of conventional CT, Planmed Verity helps to find subtle extremity fractures at the first visit to the clinic.



Need for dedicated orthopedic imaging

The most commonly missed fractures are within the extremities. Initial diagnosis is typically based on plain 2D radiographs obtained on the day of the patient's visit to the orthopedic clinic. Very often, however, more detailed assessment with Computed Tomography (CT) or Magnetic Resonance Imaging (MRI) is required. Unfortunately these imaging modalities may not be readily available at the time of the visit and important diagnostic information will be missed when it is most valuable for the patient's care.

Introducing Planmed Verity Extremity CT Scanner

Planmed Verity utilizes CBCT (Cone Beam Computed Tomography) technology to provide high resolution volumetric (3D) images of the extremities at a particularly low dose. The unit is designed for extremity CT imaging at the Point-of-Care in emergency departments, orthopedic clinics and trauma centers. Typical users are radiologists, orthopedists, and extremity specialists such as hand surgeons and podiatrists.

Less missed fractures with Planmed Verity

Overlapping structures seriously limit the visibility of the subtle fracture line in 2D radiographs. In the worst case, this leads to patient suffering for months and repeated radiographs. Not only has the healing process been delayed or completely stopped but the patient has been exposed to unnecessary radiation dose.

Planmed Verity Extremity CT Scanner is designed to find subtle and occult fractures at the first visit to the imaging facility. The system features specialized functions and tools for extremity imaging that provide optimal imaging technique for different targets and purposes.





High image quality with low dose

CBCT technology with flat panel detector enables the use of significantly lower radiation dose compared to extremity imaging with conventional MDCT. For the Planned Verity Extremity CT Scanner, dose level is similar to repeated plain radiographs that are often needed for optimal visualization of subtle fractures. On the other hand, the exposure from Planned Verity examination is comparable to one chest X-ray examination, or less than one week of background radiation.

Even though Planned Verity Extremity CT Scanner utilizes remarkably low level of radiation, the image quality is equal or even superior to the expensive MDCT units. Depending on the imaging protocol, isotropic resolution of up to 0.2 mm (optional 0.1 mm high resolution) is available. Volumetric imaging with multi-planar reconstruction (MPR) and surface rendering provide optimal visualization, without structure overlap.

Optimal diagnostics and treatment planning

With Planned Verity, the technologist can achieve perfect quality without retakes. Also the radiologist can rely on the volumetric image dataset and focus on diagnostic work. This will significantly help in decision making process and reduce oversight errors.

The 3D visualization capabilities of Planned Verity provide the physicians with multiple possibilities for diagnosis and planning of the care and possible surgical intervention. MPR and surface renderings offer multiple choices for image display and excellent metal artefact removal algorithm ensures visibility of even the finest details of complex metal implants.



Detailed diagnostics with 3D imaging

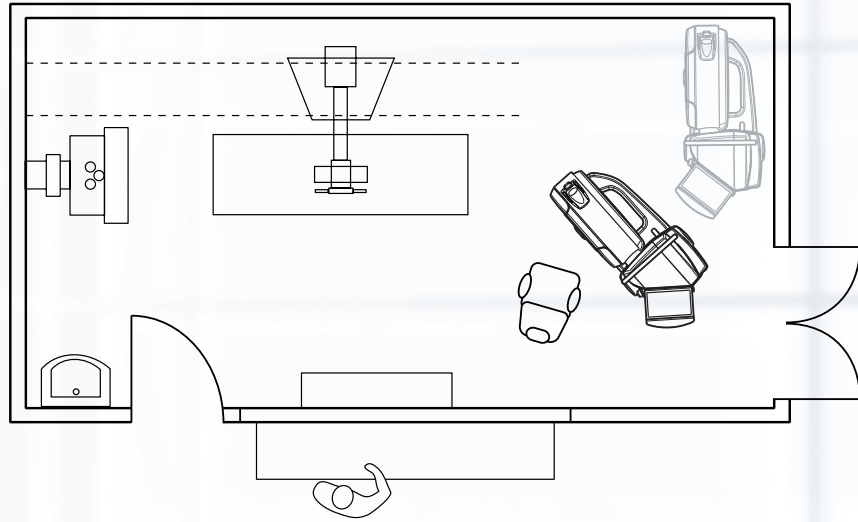


Extremity imaging using MDCT can be challenging. Very often, patients have limited mobility and can not be positioned easily on the examination table. Furthermore, awkward posture is needed when imaging e.g. elbow to avoid unnecessary X-ray exposure of sensitive organs.

Adaptable gantry with soft surface

Planmed Verity Extremity CT Scanner provides motorized gantry with adjustable height and tilt for the best possible extremity positioning. Dedicated, carbon fiber positioning trays ensure that the target is always perfectly positioned in the field of view (FOV). During the imaging, the patient can lean on a comfortable, soft gantry that reduces discomfort and thereby motion artefacts.

Planmed Verity can always be positioned in a way that is the most convenient for the patient. The versatile positioning also enables imaging for instance directly on a hospital bed making the imaging event fast and simple for both the technologist and the patient.



The possibility to move a dedicated extremity CT scanner is a truly unforeseen feature. In the optional mobile configuration, Planmed Verity can be sited to virtually any X-ray room for example right next to the existing plain radiography Bucky table. If the room space is of concern, the compact Planmed Verity can be moved to a storage position when not in use. It will only take a moment to reactivate the unit when needed.

When installing the unit, no extensive room preparation or external cooling systems are required. The stand-alone unit plugs in to a regular power outlet and connects to the information system through a standard Ethernet connection. The mobile Planmed Verity is an excellent choice for example for facilities with two adjacent X-ray rooms as the unit can be switched between rooms when general X-ray system is being serviced.



Dedicated positioning system

Specially designed positioning trays and optional positioning camera ensure that the target is always in the center of the field of view. The carbon fiber trays also help in achieving correct anatomical orientation for fracture visualization, and provide optimal image quality for CBCT imaging.

Ingenious control interface

Planmed Verity is equipped with ingenious, single-handed control system for gantry and tray movements. The user can easily and precisely operate the device while positioning the patient.

Optimal target visibility

With extended, TearDrop™ -shaped bore, Planmed Verity offers excellent target visibility and access, and less anxiety and claustrophobia for the patient. The imaging volume is indicated with red and green lasers. Optionally, video camera and multifunctional info screen on the gantry can be used for positioning.

Touch-screen optimized workflow

The user is guided through the imaging procedure by an intuitive, touch screen optimized user interface. User configurable pre-set imaging programs guarantee fluent workflow and easy operation. Multiple, touch-screen optimized software tools are available for image processing, image stack definition, surface rendering, and more. The Verity touch-screen has adjustable height and tilt for optimal working ergonomics.

Connectivity

Communication to hospital imaging network is easy with the Verity Manager software. The software has built in worklist management and image transfer protocols for communication with Hospital Information Systems (HIS), Radiology Information System (RIS) and Picture Archiving and Communication System (PACS). Verity Manager is compliant with Digital Imaging and Communications in Medicine (DICOM).



Weight-bearing CT

One of the most intriguing new applications of Planmed Verity Extremity CT Scanner is weight-bearing option in which the patient stands inside the gantry during image acquisition. Weight-bearing imaging of the ankle or knee shows the anatomy under natural load. With this new imaging application many of the previously unanswered questions can be addressed.

Soft-surface gantry

Correct patient positioning is the key to successful imaging. For patients with fractures it may be difficult to remain still during imaging. The soft gantry surface is one of the features that help the patient to find and maintain comfortable position. Nice addition to this element is the possibility to select a color that "speaks the right language". The strong, vivid color can also help the patient to relax during image acquisition.





Fast 3D image reconstruction

With Planmed Verity Extremity CT Scanner 3D reconstruction is readily available at the unit within couple of minutes after image acquisition. During the reconstruction process, proprietary image processing algorithms fine-tune the image for optimal presentation of clinically relevant data, which is then available for DICOM transfer to PACS and radiologist workstation.

Extended volume

It is also possible to extend the imaging volume if needed. This optionally available, so called stitching algorithm automatically combines two adjacent images into one volume. This is useful for visualizing unusually long fractures or other targets requiring extended imaging volume.

Artefact removal

Planmed Verity's advanced artefact removal algorithm has been developed to provide optimal image presentation even in challenging post-operative imaging studies. The unit can display detailed bone structure all the way to the very vicinity of the metal-bone interface, which is invaluable for fracture and joint surface diagnostics.

Future applications

For Planmed Verity and CBCT technology, we can find many new, intriguing uses. For instance, bone healing process can be visualized in a novel way without removing the cast. It is also possible to use contrast media for arthrography or other specialized imaging technique. These are just some examples of many possible future applications for the Planmed Verity Extremity CT Scanner. With the low dose and easy accessibility combined to the high quality clinical images, Planmed Verity will revolutionize orthopedic extremity imaging practices.



Enhanced digital imaging

Planmed Verity Lilac



Planmed Verity Dark Blue



Planmed Verity Mint



Planmed Verity Sahara Yellow



Planmed Verity Lime





Planmed Oy develops, manufactures and markets advanced imaging equipment and accessories for mammography and orthopedic imaging. Planmed's extensive mammography product range covers digital and analog units, stereotactic biopsy devices, and breast positioning systems for an early detection of breast cancer. Within orthopedic 3D imaging Planmed offers low dose extremity CT imaging for quicker, easier and more accurate diagnosis at the Point-of-Care.

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