THE **NEXT**
LEVEL CBCT

DUAL
ENERGY

Patent Pending

NewTom
Cone Beam 3D Imaging
what's next

DUAL
ENERGY

Dual Energy: patented NewTom technology

The result of a continuous quest for patient well-being and ever-greater diagnostic precision, Dual Energy uses two different radiant energies to identify any pathologies with greater clarity and precision.

Virtual Monochromatic Images

Dual Energy technology mitigates beam-hardening artifacts. What's more, being able to reconstruct monochromatic virtual images at different keVs improves soft tissue imaging quality and reduces metal artifacts. Lastly, Dual Energy CBCT provides a basis for tissue characterisation.

Colour-coded images

NewTom Dual Energy software enables users to perform semi-automatic tissue segmentation and apply colour codes, streamlining the differentiation of materials within the scanned area. This allows rapid and straightforward detection of potential pathologies.

Blended image

The new features enable weighted blending of high- and low-energy imaging. The resulting images combine the low noise, typical of high-energy acquisition, with the high contrast resolution of the low-energy image set.

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NewTom
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DUAL ENERGY

NewTom CBCT imaging now draws on fresh energy.

As of today NewTom 7G incorporates the Dual Energy (DE) system, elevating performance to new heights and revolutionising the way your practice operates.

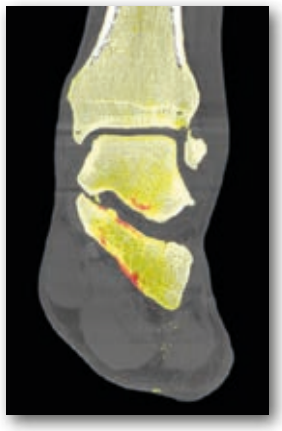
Dual Energy tomography employs two distinct radiant energies to acquire two sets of images of the same anatomical area.
Since tissues have different sensitivities to different energy levels, the obtained images can now provide information on the chemical composition of the tissues themselves. This means pathologies can be detected with greater confidence and precision.

Representations for demonstrative purposes.

DUAL ENERGY: *NEXT-LEVEL MEDICAL IMAGING*

At the forefront of diagnostic imaging, Dual Energy Cone-Beam CT acquisition is set to broaden the medical application horizons of CBCT technology.
NewTom Dual Energy CBCT provides unique clinical information that lets you highlight, characterise, quantify and distinguish tissues within the scanned zones. This means you can obtain much more information on the chemical composition of the materials in the area under investigation.

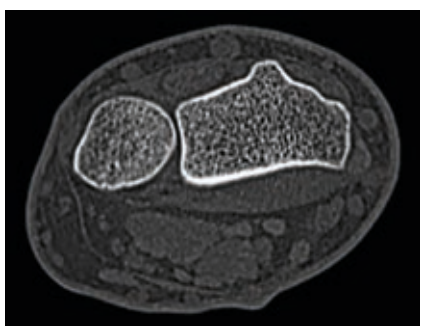
Single energy image CBCT



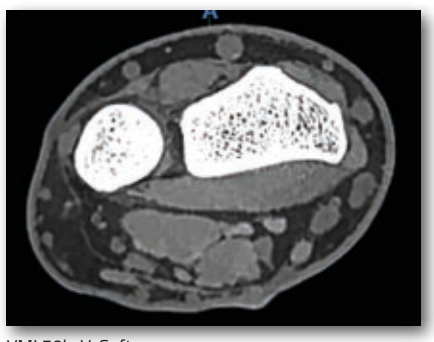
Dual Energy Color Coded image CBCT

IMPROVED TISSUE CONTRAST

CBCT Dual Energy lets you differentiate between separate tissue types by harnessing their energy absorption properties.
Hence its outstanding effectiveness in obtaining higher-quality imaging of the cortical bone, the trabecular bone and significantly better soft tissue images.



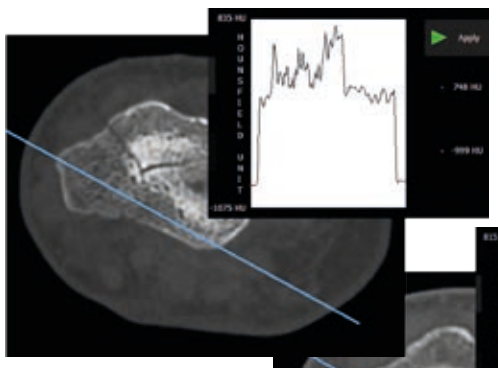
VMI 60keV; Bone



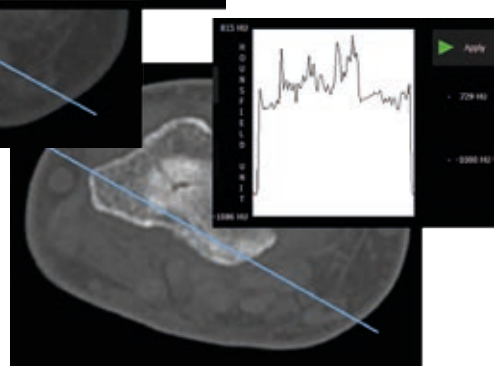
VMI 50keV: Soft

IMPROVED PRECISION

Quantitative tests have demonstrated that Dual Energy protocols improve - compared to single-energy CBCT exams - HU accuracy, contrast resolution and image homogeneity.



Dual Energy CBCT



Multi-detector CT

FEWER MOTION ARTIFACTS

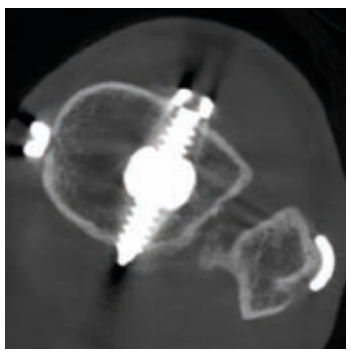
One of the main causes of image quality decay is the appearance of artifacts caused by patient movement, including involuntary actions such as breathing or trembling. NewTom has developed an algorithm that corrects any movement-induced distortions. It does this on each axis, offsetting any shifts, rotations or variations in distance from the panel. The result is uncompromising quality.

Motion correction OFF

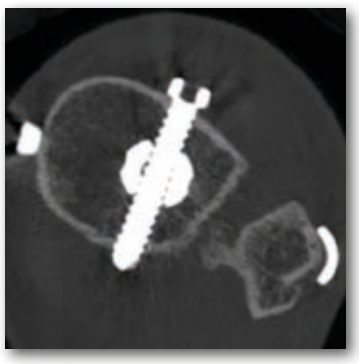
VMI 50 Motion correction ON

FEWER METAL ARTIFACTS

Metal artifacts are a common issue in tomography and can significantly impact image quality and, consequently, diagnostic accuracy. Dual Energy CBCT lets you reconstruct a monochromatic virtual image by selecting the most suitable energy level (keV), ensuring unrivalled image quality even where implants, prostheses and/or osteosynthesis systems are present.



Single energy Image; 120kV



VMI 85keV – Metal

LOW ENERGY, HIGH ENERGY... *AND EVERYTHING IN BETWEEN*

Reconstruction of the information from the low and high energies is instantaneous. The special DE software developed by NewTom allows real-time selection of energy levels during display. This means you can access a vast spectrum of information, making pathology detection more effective and reliable.

VMI 60keV; BONE/SOFT

VMI 60keV; BONE/SOFT