

Total knee arthroplasty under weight-bearing

Multitom Rax Real3D¹ clinical case
Artemed Hospital Munich, Germany



¹Option

Results from case studies are not predictive of results in other cases. Results in other cases may vary.



Clinical background and indication for Multitom Rax Real3D¹ examination

Patient

Male | Age range 60 - 70 years | BMI range 20 - 25 kg/m²

Anamnesis

Pain in the left knee after knee prosthesis implantation.

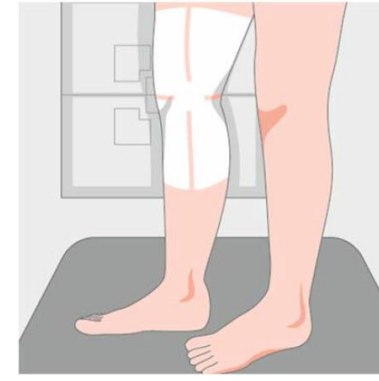
Indication for Real3D¹ examination

No periprosthetic fracture or implant loosening can be seen in the conventional X-ray examination. Further assessment in the 3D examination.

More precise assessment of the implant position for loosening and periprosthetic fracture, which may not be visible on the X-ray examination.



The heel should be close to the backmost horizontal line.



Align the horizontal line just below the patella.



Ensure that the light field covers the knee.

The products/features (mentioned herein) are not commercially available in all countries. Their future availability cannot be guaranteed.

¹ Option

Multitom Rax Real3D¹

Settings



Settings for upright scan with Standard Protocol

| | |
|--|-----------------------------------|
| <i>Tube voltage</i> | 117 kV |
| <i>Current time product</i> | 213 mAs |
| <i>Dose area product</i> | 534 $\mu\text{Gy}\cdot\text{m}^2$ |
| <i>Calculated value for $\text{CTDI}_{\text{vol},32}$</i> | 4.6 mGy |
| <i>Scan time</i> | 16 sec |
| <i>Number of projections</i> | 434 |

Reconstruction settings for sectional views using Metal Artefact Reduction

| | |
|------------------------------|----------------------------|
| <i>Pixel size</i> | 0.4 mm |
| <i>Reconstruction kernel</i> | sharp (equivalent to Br69) |
| <i>Slice thickness</i> | 0.5 mm |

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Diagnostic findings

It can be clearly seen that there is no loosening of implant. A periprosthetic fracture is also not visible.
Apart from an effusion in the suprapatellar recess, there were no other abnormalities.
It was decided to puncture the effusion.



Sagittal view



Coronal view

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“With the help of metal artifact reduction of Multitom Rax Real3D, the interfaces between bone and implant can be seen with unprecedented clarity.”¹

Amir Bigdeli, MD
Artemed Hospital Munich, Germany

¹ The statements by Siemens Healthineers customers described herein are based on results that were achieved in the customer’s unique setting. Since there is no “typical” hospital and many variables exist (e.g. hospital size, case mix, level of IT adoption) there can be no guarantee that other customers will achieve the same results.



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Dr. Amir Bigdeli is employed by an institution that receives financial support from Siemens Healthineers for collaborations.