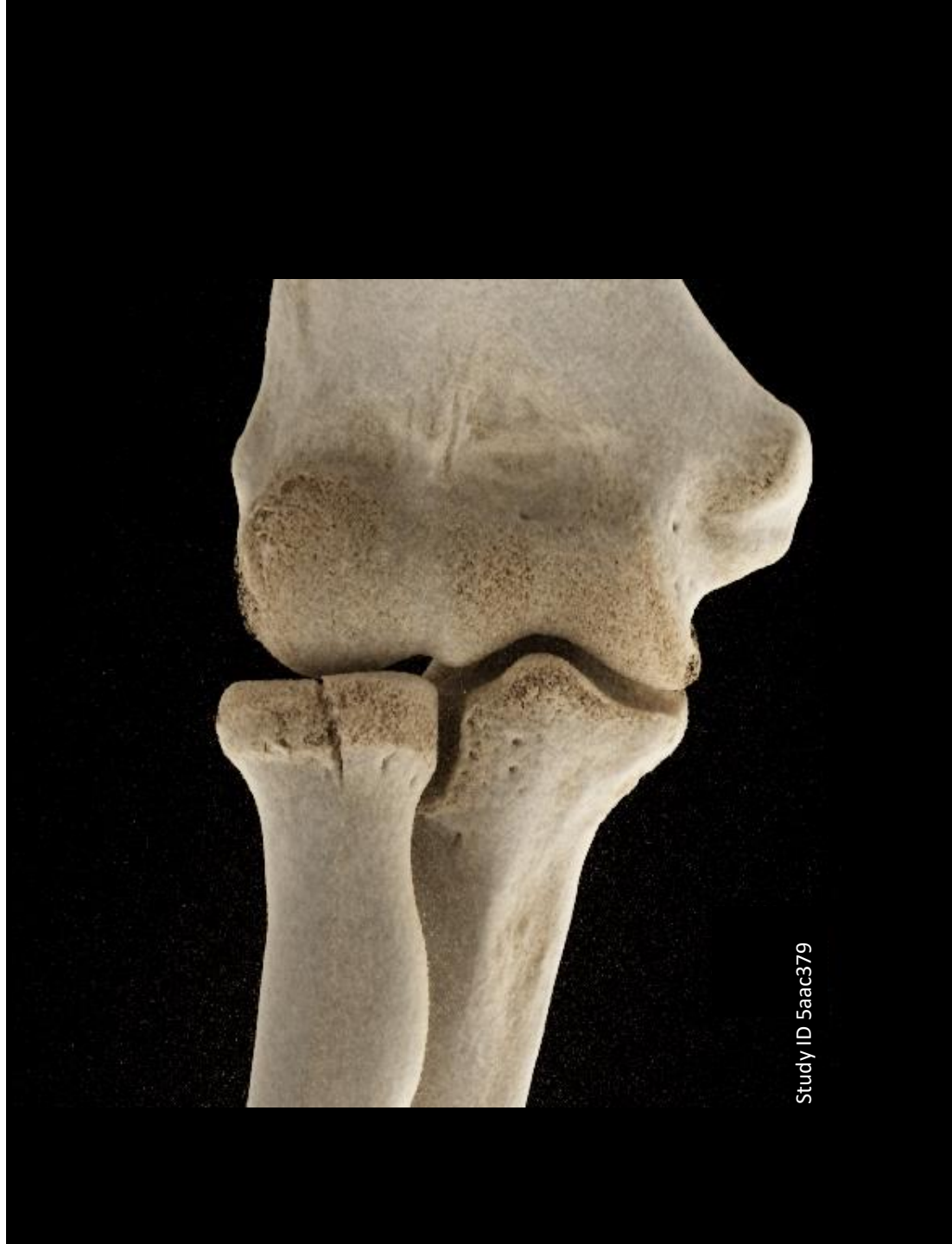
SIEMENS Healthineers

Radial head fracture

Multitom Rax Real3D[1] Hi-Res clinical case
University Hospital Wuerzburg, Germany



[1] Option

Clinical background and indication for Multitom Rax Real3D[1] Hi-Res examination

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Patient
Male |*2002 | BMI 20.4 kg/m²

Anamnesis
The patient fell from an e-scooter onto his right elbow.
He presented to the trauma surgery department with pressure pain, especially over the radial head, and extensive swelling, which resulted in limited motion range.

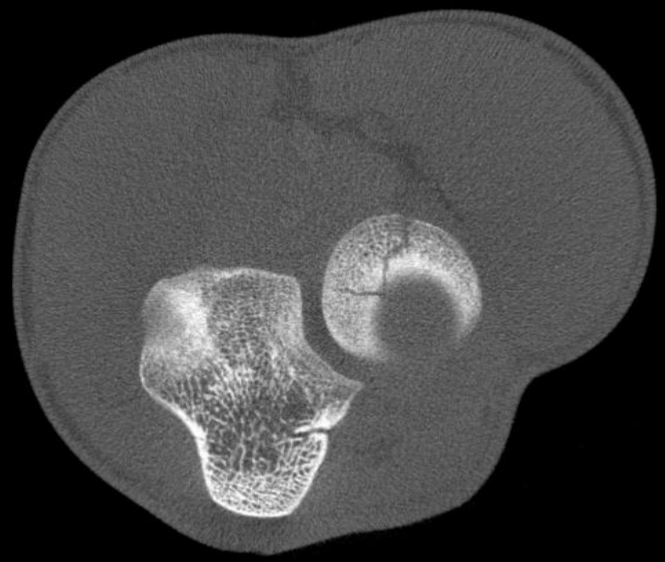
Indication for Real3D[1] Hi-Res examination
No bony injury could be ascertained in initial x-ray scans, however, a subtle anterior fat pad sign in the lateral radiogram (arrow) suggested the presence of joint effusion. When the second set of radiographs six days later did not display any fracture line, Real3D was requested to exclude a radiographically occult fracture of the radial head.

Date of injury

Six days later
Conventional X-ray examination

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

Multitom Rax Real3D[1] Hi-Res Settings



Study ID 5aac379

Settings for tableside scan with Standard Protocol

Tube voltage	80 kV
Current time product	197 mAs
Dose area product	142 µGy·m²
Calculated value for $CTDI_{vol,32}$	1.9 mGy
Scan time	14 sec
Number of projections	318

Reconstruction settings for sectional views

Pixel size	0.2 mm
Reconstruction kernel	very sharp (equivalent to Ur77)
Slice thickness	1 mm

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Multitom Rax Real3D[1] Hi-Res
Diagnostic findings

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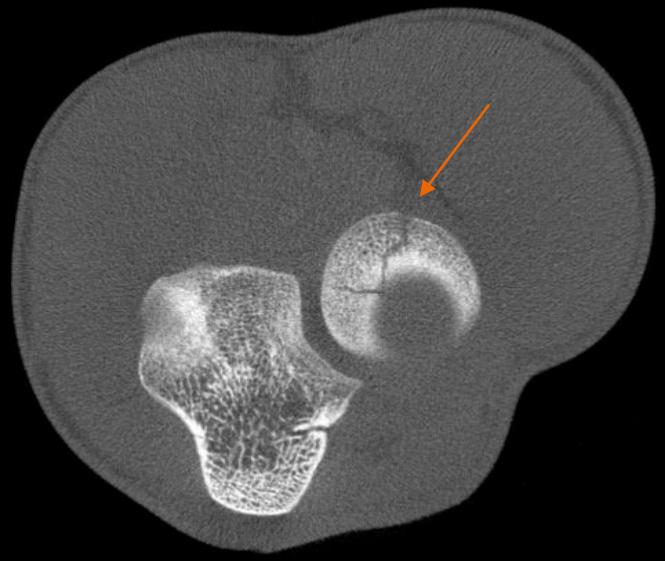
Multitom Rax Real3D was able to depict a non-displaced fracture in the anterior portion of the radial head (Mason type I).
Apart from the radial head injury, other fractures could be excluded in the Real 3D examination.
Surgical therapy was not required, since the elbow joint showed no signs of instability.
Instead, the patient was advised to have conservative treatment with temporary immobilization and subsequent physical therapy.



Axial view

Sagittal view

Coronal view

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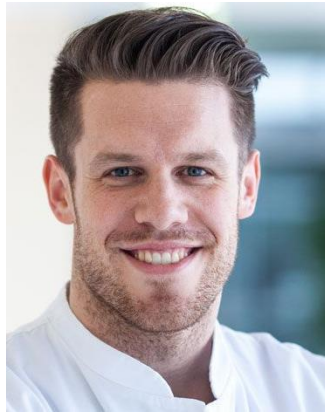

"The standard-dose scan protocol was used due to the patient's young age and its excellent image quality in preclinical studies. Despite limited elbow mobility, positioning was easy with the tableside scan trajectory of Multitom Rax."[1]

Jan-Peter Grunz, MD
University Hospital Wuerzburg, 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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Results from case studies are not predictive of results in other cases. Results in other cases may vary.

Dr. Jan-Peter Grunz is employed by an institution that receives financial support from Siemens Healthineers for collaborations.