SIEMENS Healthineers

Thumb base fracture

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

Image reprocessed on *syngo.*via with cinematic VRT.
Cinematic VRT is recommended for communication, education, and publication purposes and not intended for diagnostic reading.

[1] Option

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

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Patient
Female |*1994 | BMI 18.8 kg/m²

Anamnesis
While walking backwards, a horse collided with the patient's right thumb. Immediate pain and swelling were reported by the patient.

Indication for Real3D[1] examination
Radiography revealed a dislocated fracture of the first metacarpal (arrow). Articular involvement was deemed questionable.

Lateral *AP*
Conventional X-ray examination

Study ID 5aab938

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

Multitom Rax Real3D[1] Settings

Study ID 5aab560

Settings for tableside scan with High Quality Protocol

Tube voltage	80.7 kV
Current time product	625 mAs
Dose area product	1440 µGy·m²
Calculated value for $CTDI_{vol,32}$	10.6 mGy
Scan time	12 sec
Number of projections	314

Reconstruction settings for sectional views

Pixel size	0.4 mm
Reconstruction kernel	sharp (equivalent to Br69)
Slice thickness	2 mm

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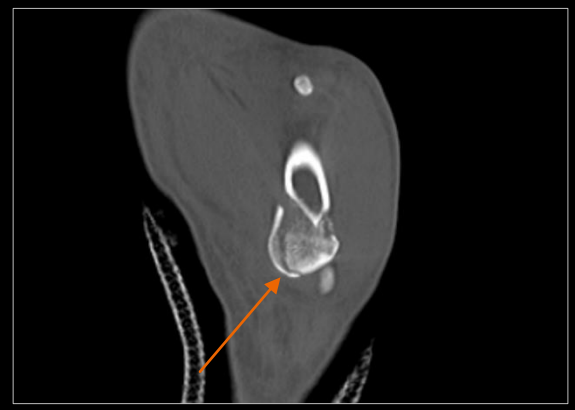
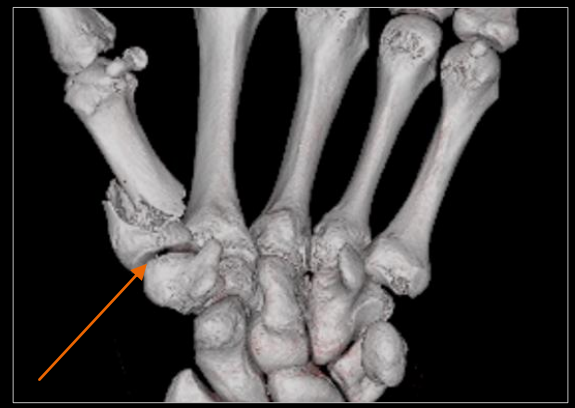
[1] Option

Multitom Rax Real3D[1]
Diagnostic findings

The fracture pattern was easily assessable in Real 3D[1] images, allowing for detailed evaluation of fragment dislocation.
Coronal images display ulnar-sided displacement of the distal metacarpal I fragment.
Image quality is not impaired after cast immobilization.
Sagittal reformatting demonstrated articular affliction of the metacarpotrapezial joint (arrows). The fracture pattern could further be visualized in VRT for surgical planning.



Sagittal view



VRT view

Coronal view

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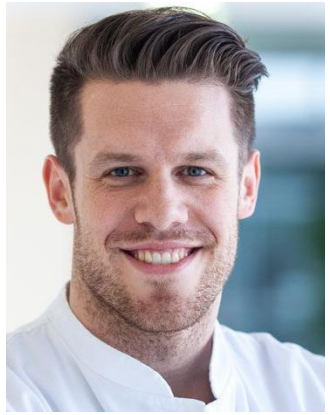

“Spatial resolution and assessment of bone microarchitecture in Real3D images is superior to multidetector CT examinations. Good soft tissue contrast allows for diagnosis of fracture-related findings.”[1]

Jan-Peter Grunz, MD
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[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.