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Non-displaced elbow fracture

Multitom Rax Real3D[1] Hi-Res clinical case
University of Utah, United States of America



Case 1
Study ID: 5aag729

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1 Option

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

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Patient

Sex	Age	BMI
Male	**20–25 years**	**20–25 kg/m²**

Anamnesis

The patient was snowboarding and fell, hyperextending his elbow with exquisite pain overlying his left elbow. He has pain with any pronation or supination, but has no pain in his shoulder. He denies any loss of consciousness and otherwise is without any complaints.

Indication for Real3D[1] Hi-Res examination

Assessment of the elbow.



Conventional X-ray examination

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Multitom Rax Real3D[1] Hi-Res
Settings



Settings for tableside scan
with High Quality Protocol

Tube voltage	81 kV
Current time product	320 mAs
Dose area product	408.1 µGy·m²
Calculated value for $CTDI_{vol,16}$	15.7 mGy
Scan time	14 sec
Number of projections	318

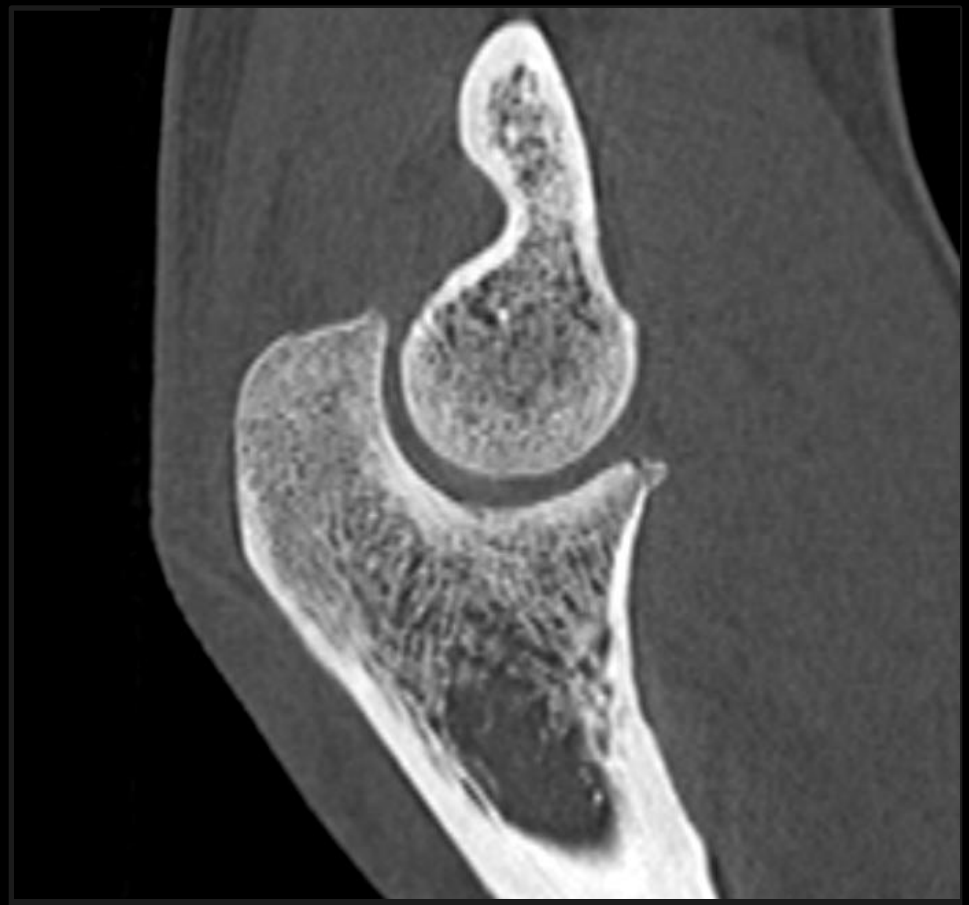
Reconstruction settings
for sectional views

Pixel size	0.2 mm
Reconstruction kernel	sharp
Slice thickness	0.5 mm

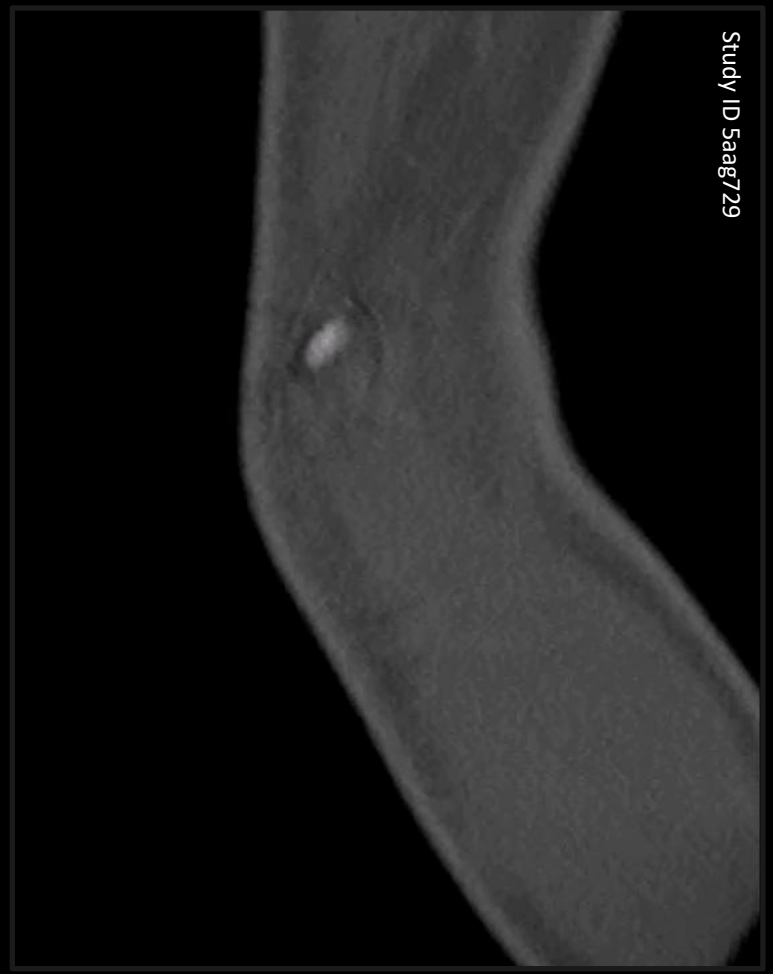
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Multitom Rax Real3D[1] Hi-Res
Diagnostic findings



Sagittal view MPR



Nondisplaced fracture of the coronoid process.
Normal alignment.
No elbow joint effusion.
Joint spaces are preserved.

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"Learning points for this clinical case:

- Fracture is occult or nearly occult on X-ray, even when using an additional oblique view
- High-quality images of the elbow were obtained
- Real3D enabled the radiologist to readily see the non-displaced fracture of the coronoid process
- While small, the fracture was associated with pain and swelling, indicating the importance of detecting it; subsequent radiographs showed progressive healing with unchanged alignment, likely enabled by knowledge of the fracture being present"[1]

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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Real3D is an option.

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Frederic Noo, PhD is employed by an institution that receives financial support from Siemens Healthineers for collaborations.

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