Multiple ankle fracture of a patient with muscle atrophy

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



The products/features mentioned herein are not commercially available in all countries. Their future availability cannot be guaranteed. Results from case studies are not predictive of results in other cases. Results in other cases may vary.
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Clinical background and indication for Multitom Rax Real3D[1] examination

Patient

Sex	Age	BMI
Female	25–30 years	35–40 kg/m²

Anamnesis

Patient with a past medical history significant for Charcot-Marie-Tooth muscular atrophy, weakness of both legs, who is 4 months postpartum, and presenting with a left ankle injury. The patient reports that she was standing on one leg and lost her balance, and felt a pop that she fell. The patient has a history of a fracture of this ankle in the past that was nonoperative. She was unable to bear weight after this injury. She is reporting significant pain in the area of the lateral malleolus.

Indication for Real3D[1] examination

Assessment of the ankle joint.



Conventional X-ray examination



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Multitom Rax ReaI3D[1]
Settings



Settings for table scan
with High Quality Protocol

Tube voltage	80 kV
Current time product	181 mAs
Dose area product	863.3 µGy·m²
Calculated value for $CTDI_{vol,16}$	11.4 mGy
Scan time	16 sec
Number of projections	434

Reconstruction settings
for sectional views

Pixel size	0.4 mm
Reconstruction kernel	sharp
Slice thickness	0.5 mm

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Multitom Rax RealD[1]
Diagnostic findings



Sagittal view MPR

There is an age indeterminate minimally displaced posterior malleolus fracture. There is a nonacute mildly displaced fracture of the medial malleolus; these fracture margins are somewhat corticated without bridging callus along formation. Healed mildly displaced fracture involving the anterior aspect of the lateral malleolus. There is widening of the medial clear space. Osseous demineralization. No large effusion. Diffuse atrophy of the imaged lower extremity muscles.

Impression

01 Age-indeterminate minimally displaced posterior malleolus fracture.

02 Nonacute fractures of the medial and lateral malleolus. Widening of the medial clear space is favored to be chronic/related to the prior injury.

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“Learning points for this clinical case:

- High-quality images obtained despite significant pain reported at imaged location, indicating strong ability to immobilize the foot anatomy for the scan time.
- Real3D enabled the radiologist to:
  - Identify a variety of fractures
  - Provide detailed information on fracture appearance”[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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