Study protocol

Fixation of distal radius fracture

Ortho/trauma surgery

Case description

Patient
Male, aged between 46 and 60 years
BMI range: 40+

Diagnosis
Fracture of distal radius following bicycle accident
AO classification: 2R3C3
(Figs. 1–5)

Surgical procedure
Fixation of distal radius fracture: temporary stabilization was achieved using K-wires followed by definitive fixation. A plate was then secured with screws to provide stable fixation.
(Figs. 6–13)

Benefits of CIARTIC Move
No C-arm technologist was needed, the surgeon operated the system from within the sterile field using **Smart Control**.

With **Position Assist** it is possible to store up to 12 procedure-specific positions, making surgical workflows more efficient.

The dose area product was 63.02 µGy*m^2 and the radiation time was 141.4 seconds.

3D imaging played a vital part in confirming the success of the surgery.

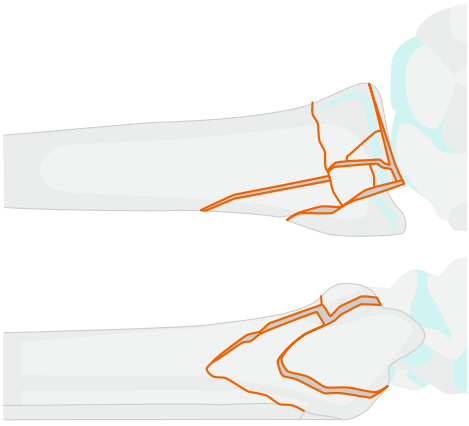
Courtesy of
BG Trauma Center Ludwigshafen, Germany

System and software
CIARTIC Move, VB10A

SIEMENS Healthineers

Clinical images and illustrations

Fig. 1

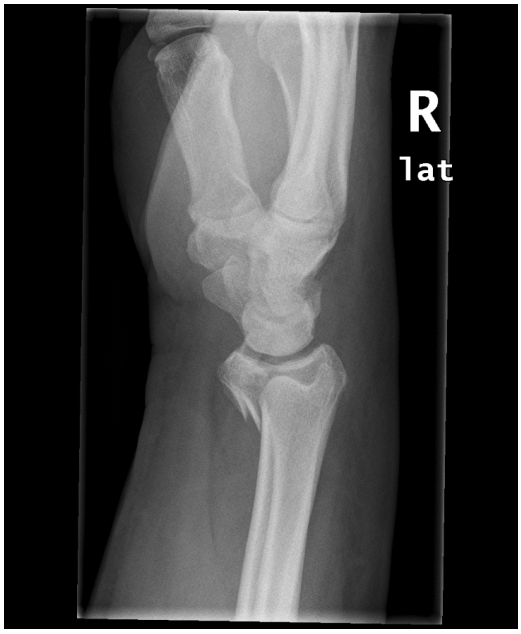


Fracture assessment and decision-making

Fig. 2

Preoperative X-ray imaging: anterior-posterior view of right distal radius showing fracture with intra-articular components

Fig. 3



Preoperative X-ray imaging: lateral view of right distal radius showing ventrally tilted distal radius fracture (flexion fracture)

Clinical images and illustrations

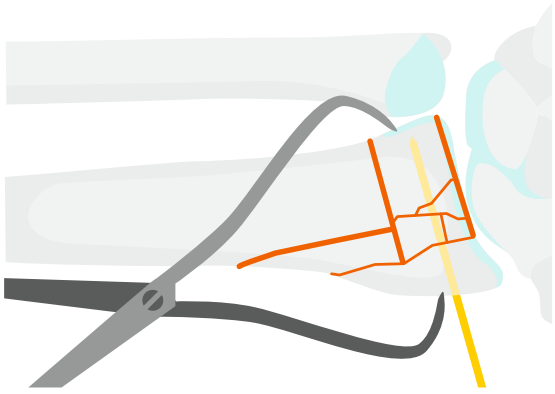
Fig. 4

Preoperative CT imaging: right distal radius showing multifragmentary intra-articular fracture

Fig. 5

Preoperative CT imaging: right distal radius showing intra-articular fracture with interposed fragments in joint surface. Sagittal section

Fig. 6



Lateral transfixation with wire and reduction forceps. This was not performed in our case.

Fig. 7

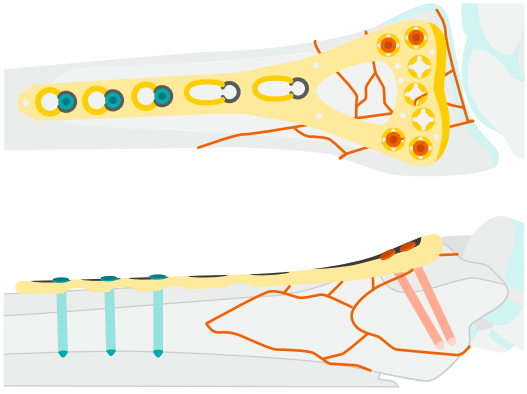


Plate is completely fixed in position with angle-stable locked screws distally for fixation of multifragmentary fracture.

Clinical images

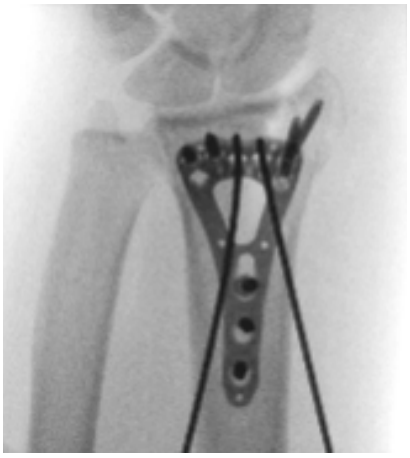
Fig. 8

Intraoperative image, anterior-posterior: for correct positioning, the plate was placed on the radius and initially fixed in the elongated hole with a cortical screw. This image shows the correct position of the plate.

Fig. 9

Intraoperative image, lateral: for correct positioning, the plate was placed on the radius and initially fixed in the elongated hole with a cortical screw. This image shows the correct position of the plate and cortical screw.

Fig. 10



Intraoperative image, anterior-posterior: temporary fixation of the intermediate fragment using two K-wires. The plate is also already equipped with three additional screws in the shaft area and four screws distally.

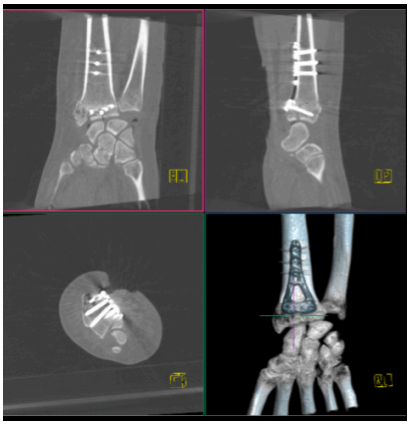
Fig. 11

Intraoperative final image, anterior-posterior: screws and plate are correctly aligned. There is no intra-articular screw placement. The middle distal screw appears intra-articular due to its length but the lateral view shows that it is entirely extra-articular.

Fig. 12

Intraoperative final image, lateral: plate and screws are correctly positioned. Reconstruction of the joint surface is shown.

Fig. 13



Intraoperative 3D scan: implant is correctly positioned with no intra-articular screw placement. Joint surface is fully reconstructed.

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Siemens Healthineers Headquarters
Siemens Healthineers AG
Siemensstr. 3
91301 Forchheim, Germany
Phone: +49 9191 18-0
siemens-healthineers.com

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