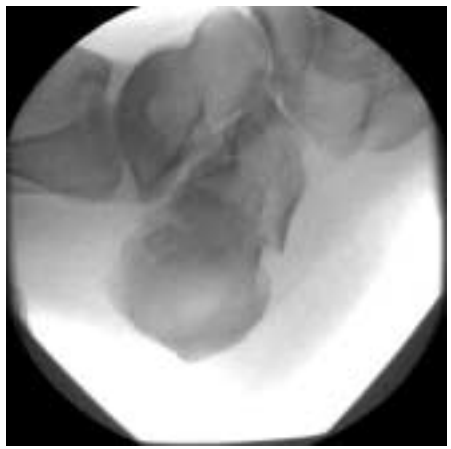
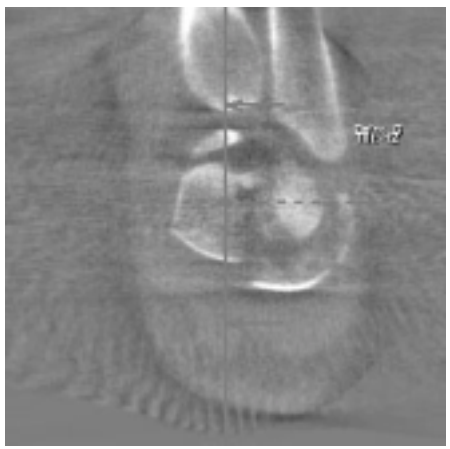
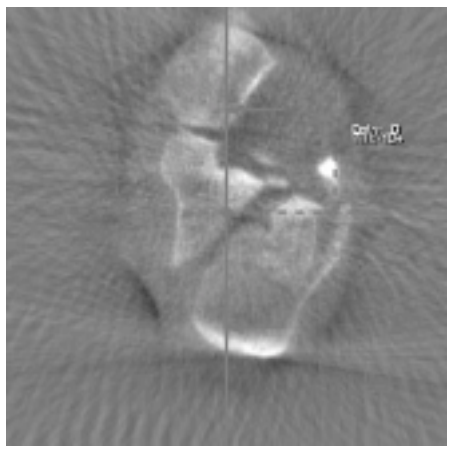
Calcaneus Fracture

- Fractures of the calcaneus (heel) are complex and the treatment is complicated. This calcaneus is broken several times. With the 3D scan the physician is able to locate the position of the single fragments and can check the result of the repositioning.
- This calcaneus was stabilized later by an osteosynthesis (plate and several screws).

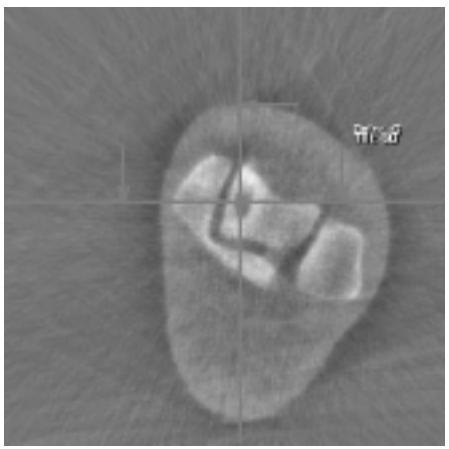






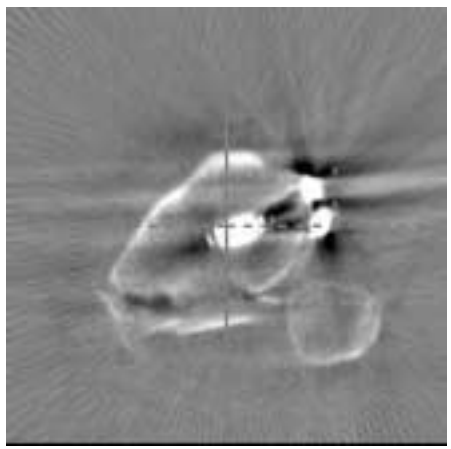
Talus Cyst

- The talus is part of the tarsal bones and part of the ankle joint. This patient has a cyst in the talus, that means a “hole in the bone”. This cyst is going to be filled with spongiosa through a canula. The 3D scan shows the exact positioning of the cyst which cannot be seen very well in normal fluoroscopy.



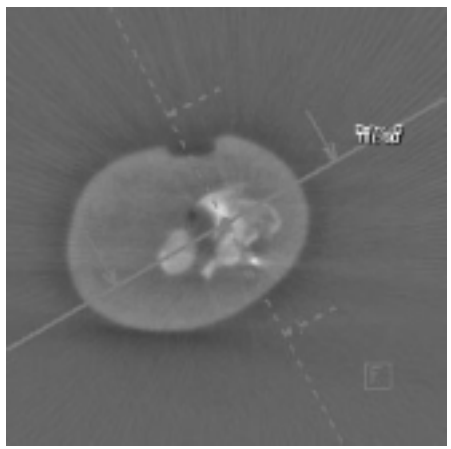
Tibia Plateau Fracture

- Osteosynthesis (with plate and several screws) of a tibia plateau fracture. There is a serious participation of the knee-joint. 3D shows the correct position of the osteosynthesis and the pieces of the fracture in the joint after the repositioning.



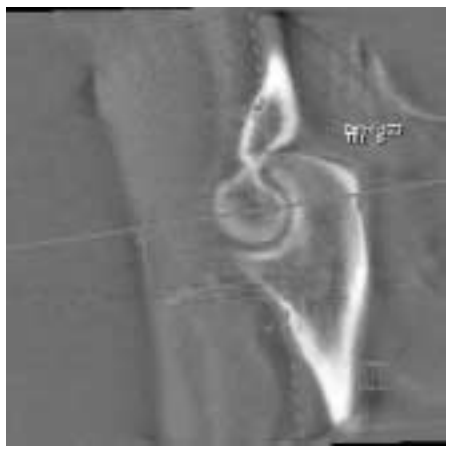
Radius Fracture

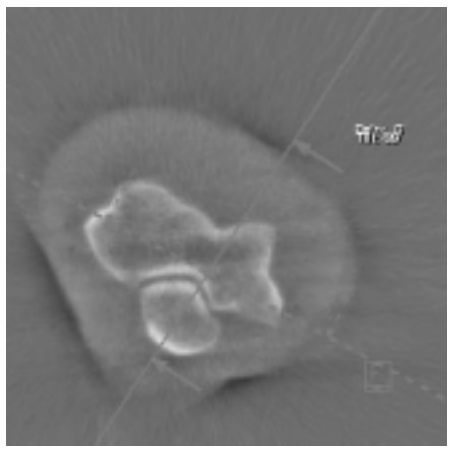
- A broken radius is a very frequent fracture. Here we have a compression fracture with a participation of the joint (wrist) which is fixed by a plate osteosynthesis with five screws. At the end of the operation, especially the surface of the joint is checked. A damage of the joint (e.g. if a fragment remains inside) could lead to an arthrosis of the wrist.
- Note: There is also a small fracture of the ulna.



Elbow Fracture

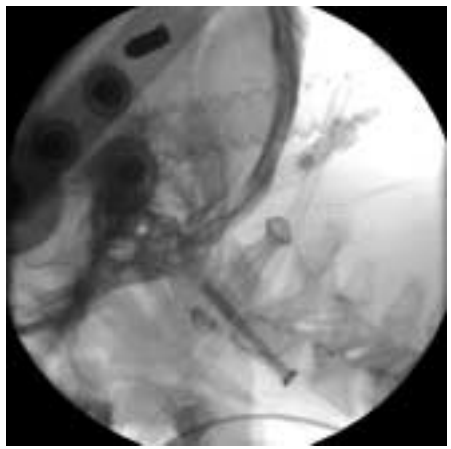
- The patient experienced a fracture of the radius head. This fracture is very close to the elbow joint and was stabilized by three small screws. With 3D a participation of the joint can be excluded.

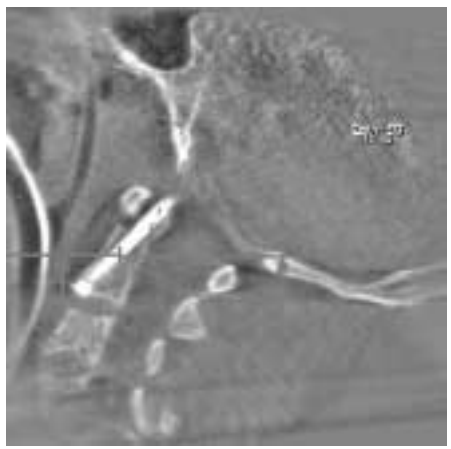




Dens Fracture

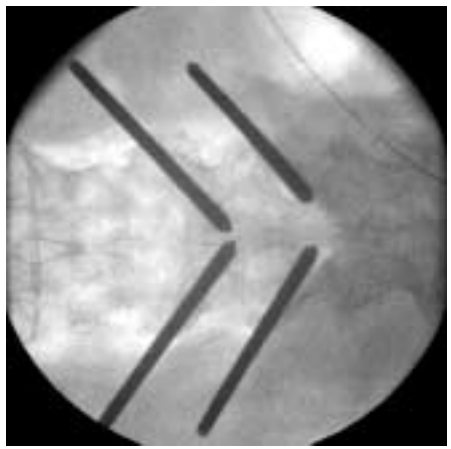
- The dens is a bony structure on the second cervical vertebra. A fracture of the dens is critical because its position is very close to the spinal cord. Because the upper cervical vertebra is overlapped by the head (mandible and/or occiput), the result of repositioning is not seen very clearly in 2D. The result of repositioning can be checked exactly by a 3D scan. In this case 3D shows the position of the screw in the dens.

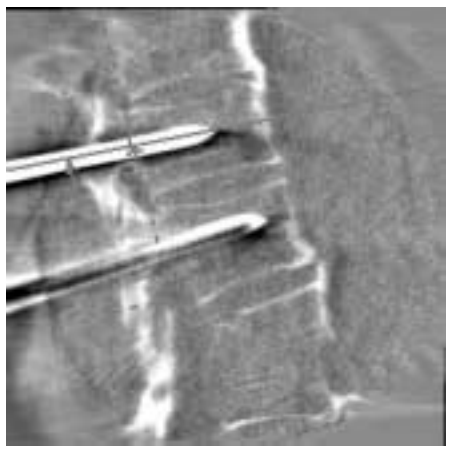


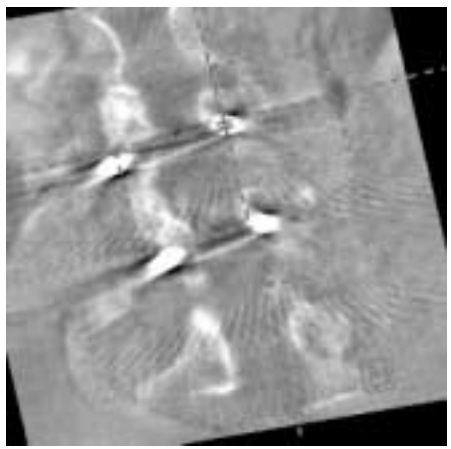


Spine with Pedicle Screws

- A fracture of the first lumbar vertebra (shown best in the sagittal MPR slices). The fracture is stabilized by an osteosynthesis with pedicle screws. This scan was used for position control of the pedicle screws in the 11th and 12th thoracic vertebras.







Lumbar Spine Fracture

- A fracture of the 4th lumbar vertebra is stabilized with pedicle screws (inserted in neighbor vertebras). On these scan images we see the fracture (still without the pedicle screws) and the metallic “dynamic reference base (DRB)“ of the surgical navigation system, which was used in this case.