



## PHILOS EARLY CONSTRUCT FAILURE

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How frequent is it?

- wrong indication?
- wrong execution?
- wrong rehab?



ICUC® ID: 11-EA-250 / 50y

We found **5** early failures  
(out of 78 PHILOS cases)  
at icuc database at  
October 2020

1 problem case is added

**Start-to-finish  
full HD data  
from each case  
is available at  
[icuc.net](http://icuc.net)**



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*"I have many open questions  
and very few answers."*

S.M. Perren, 2019

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## BACKGROUND

**“The early failure of the PHILOS locking plate in proximal humerus fractures is related to the bad reduction during the operation, the loss of medial cortex support, the limitation of screw length, the osteoporosis and the improper rehabilitation after operation.”**

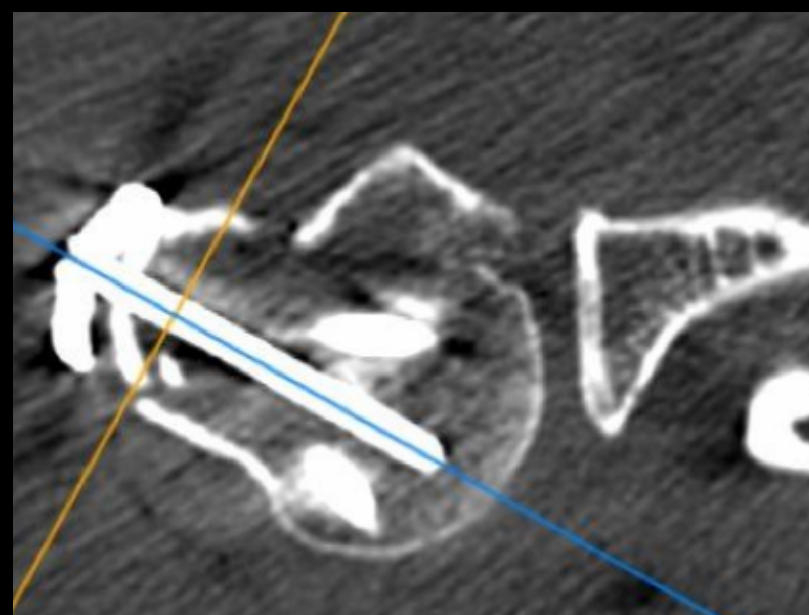
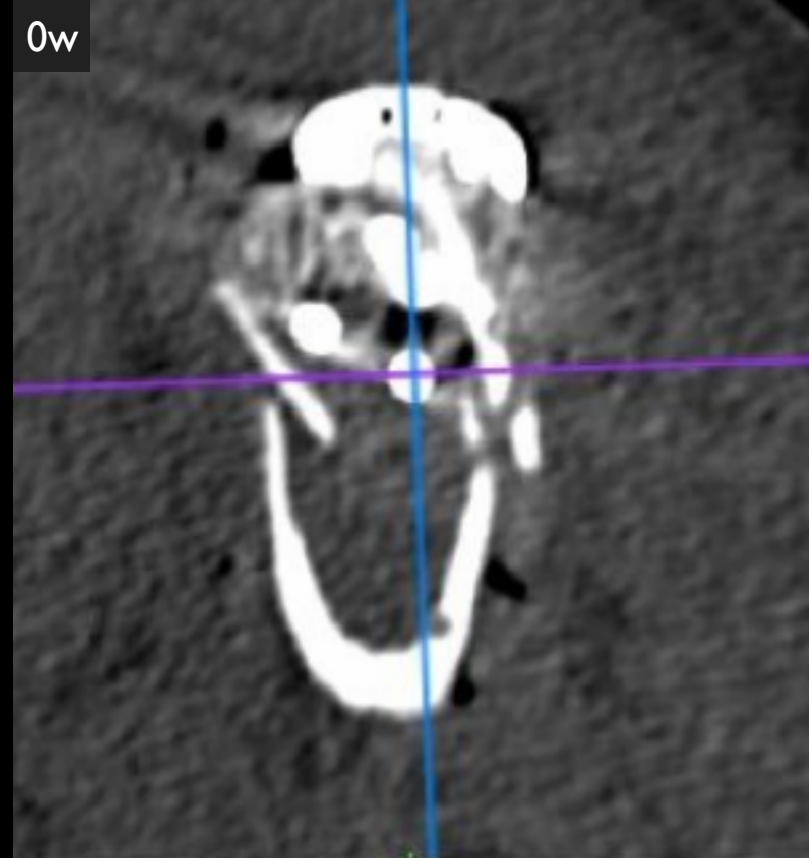
Beijing Da Xue (2016)

**“There are still cases of implant failure and humerus head necrosis, but most of these complications were caused by the fracture type and not an implant specific problem”.**

P. C. Strohm (2007)

- **The complication rate after locking plate fixation of proximal humerus fractures is high.**
- **Medial support screws, filling of bone voids and screw-tip augmentation with bone cement as well as the application of bone grafts are currently the most frequently assessed and performed methods. Although the evidence is weak...**
- **Further clinical studies with a higher number of patients and a higher level of evidence are required**

Benedikt Schliemann (2015)



2w



4w



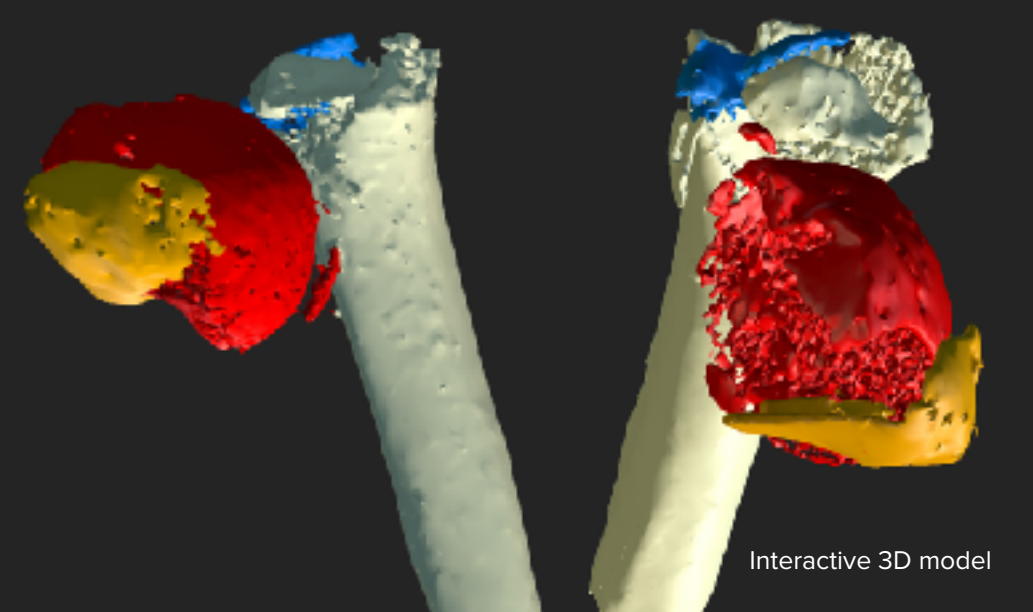
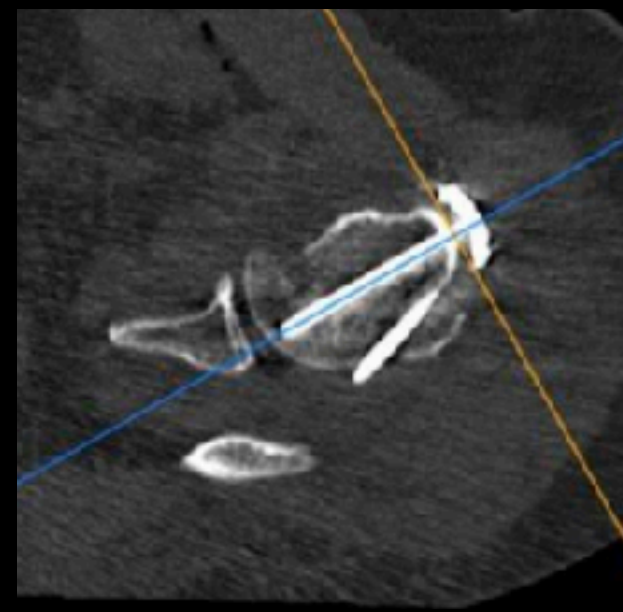
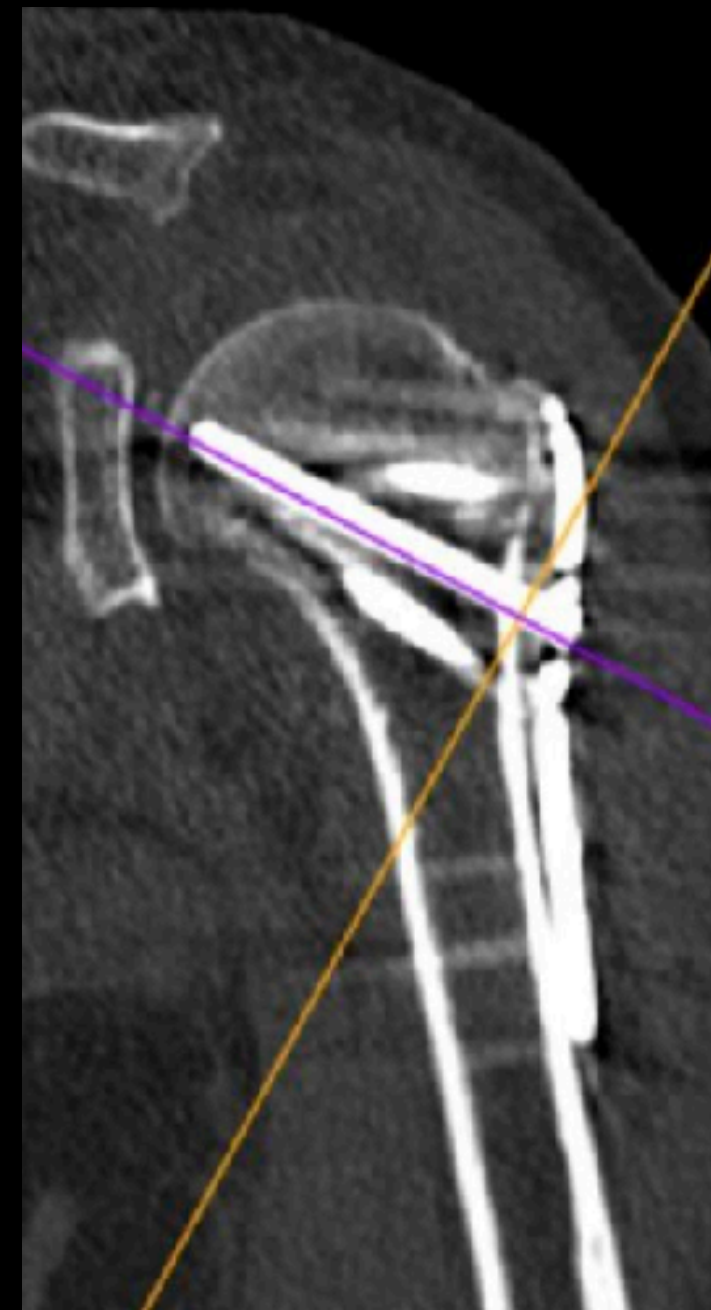
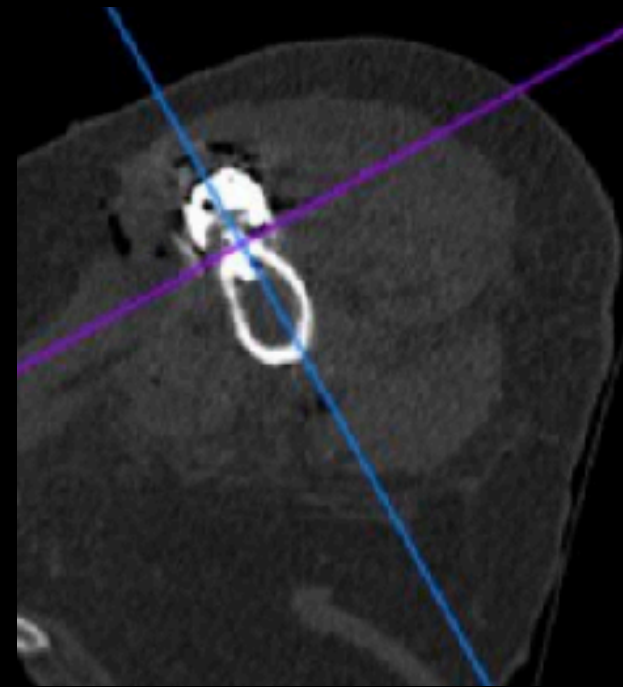
**Too early / too aggressive rehab?**



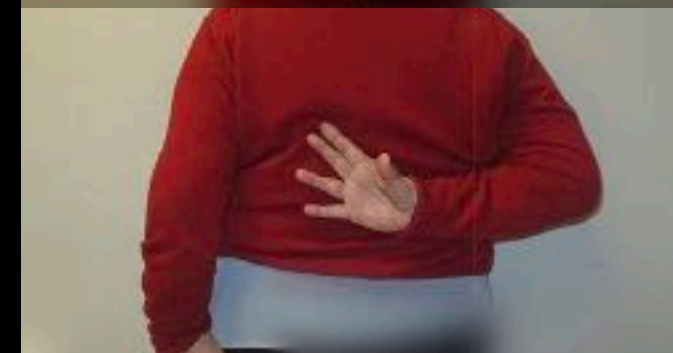
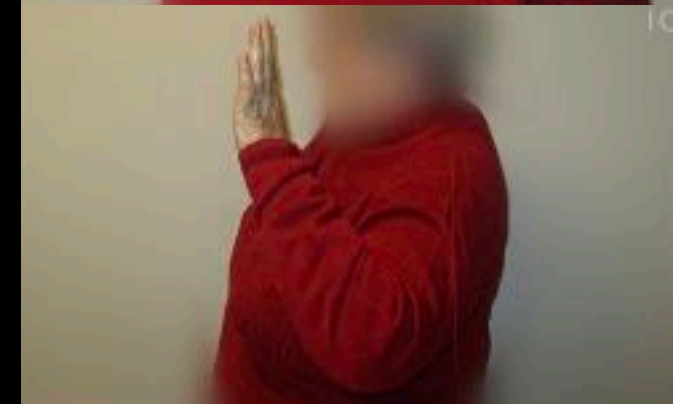
PRE



0w

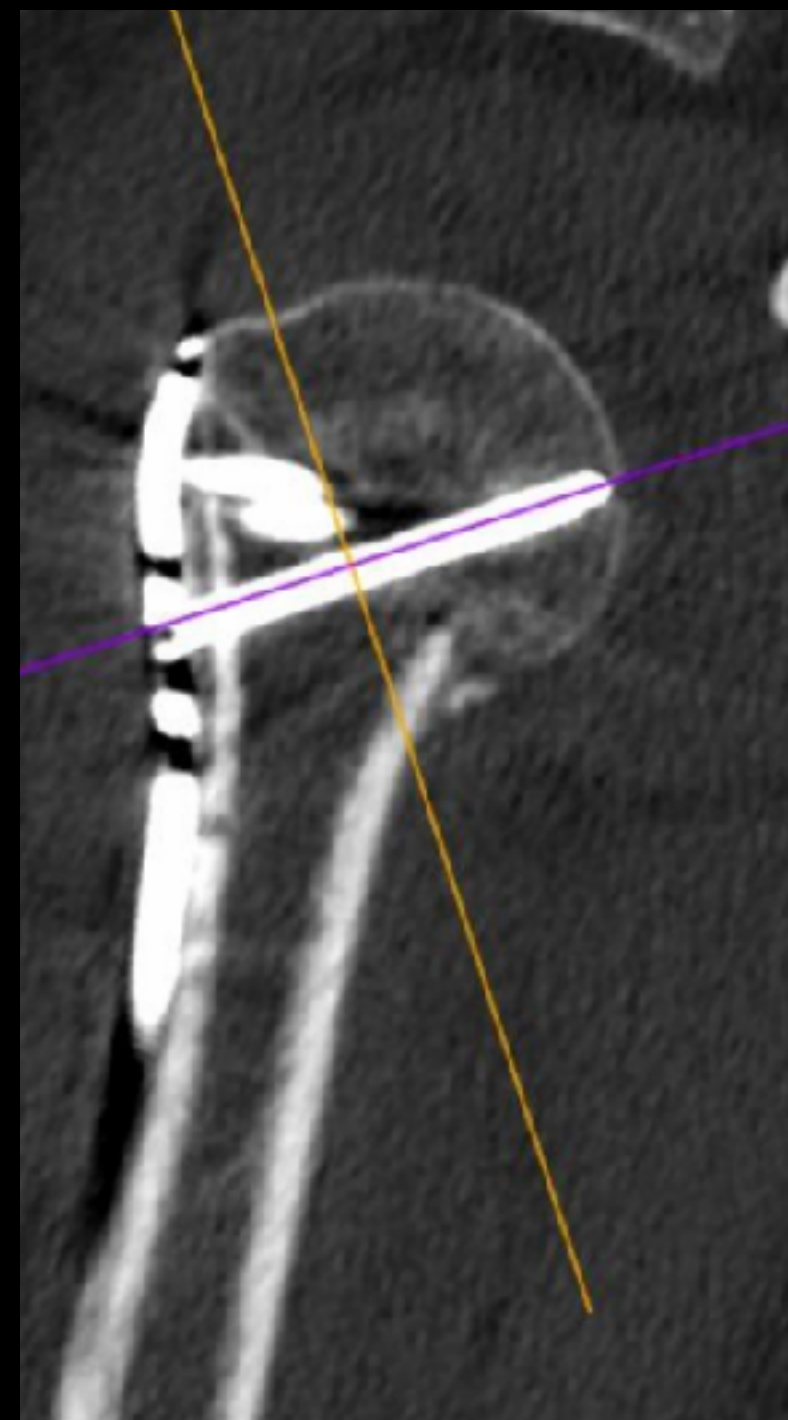
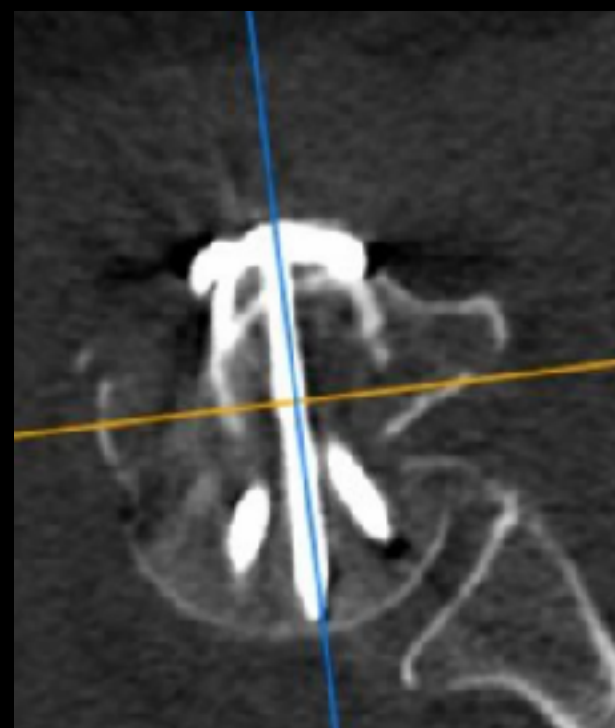








Interactive 3D model

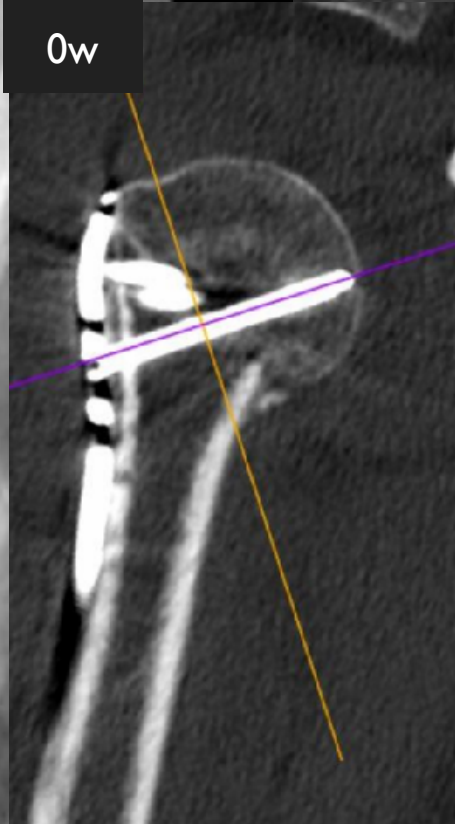




3w

5w

0w



PRE



0w



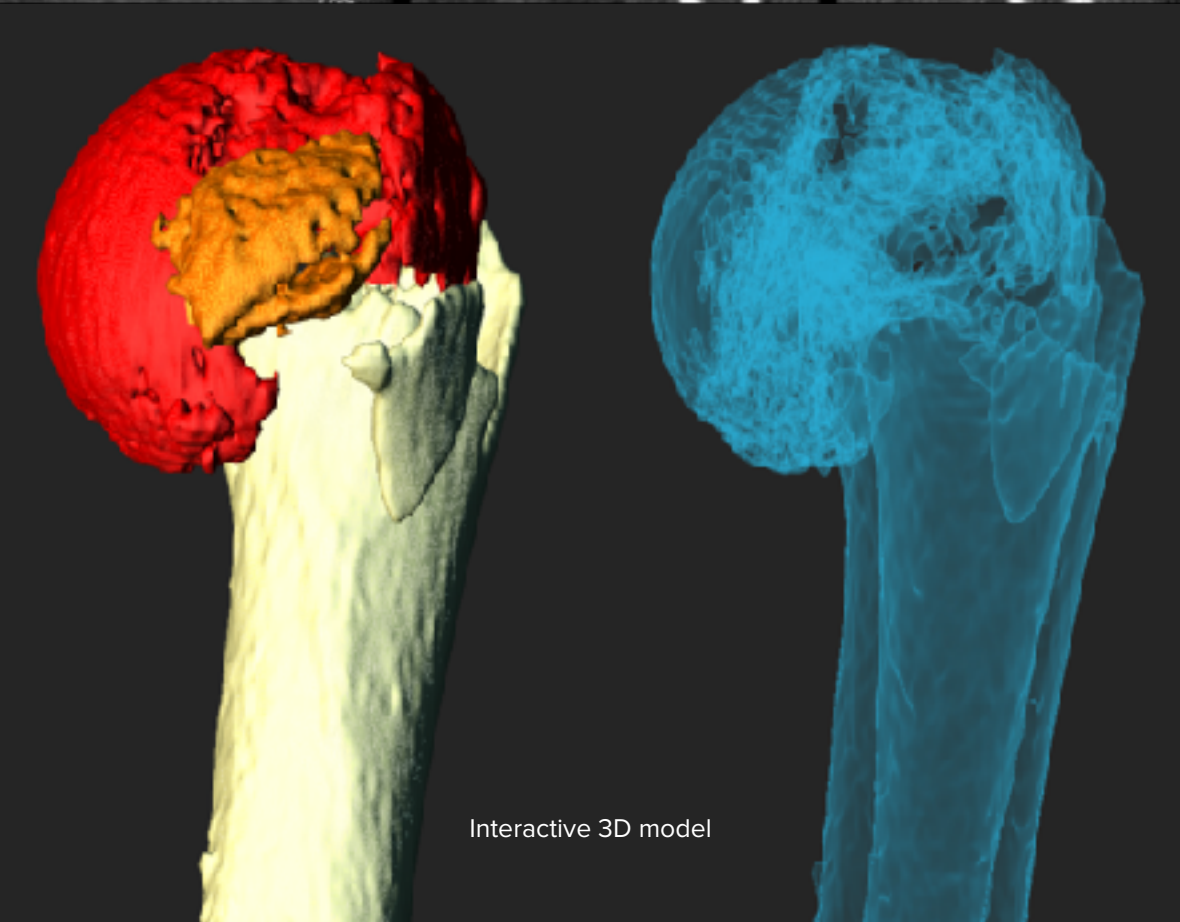


6w



0w



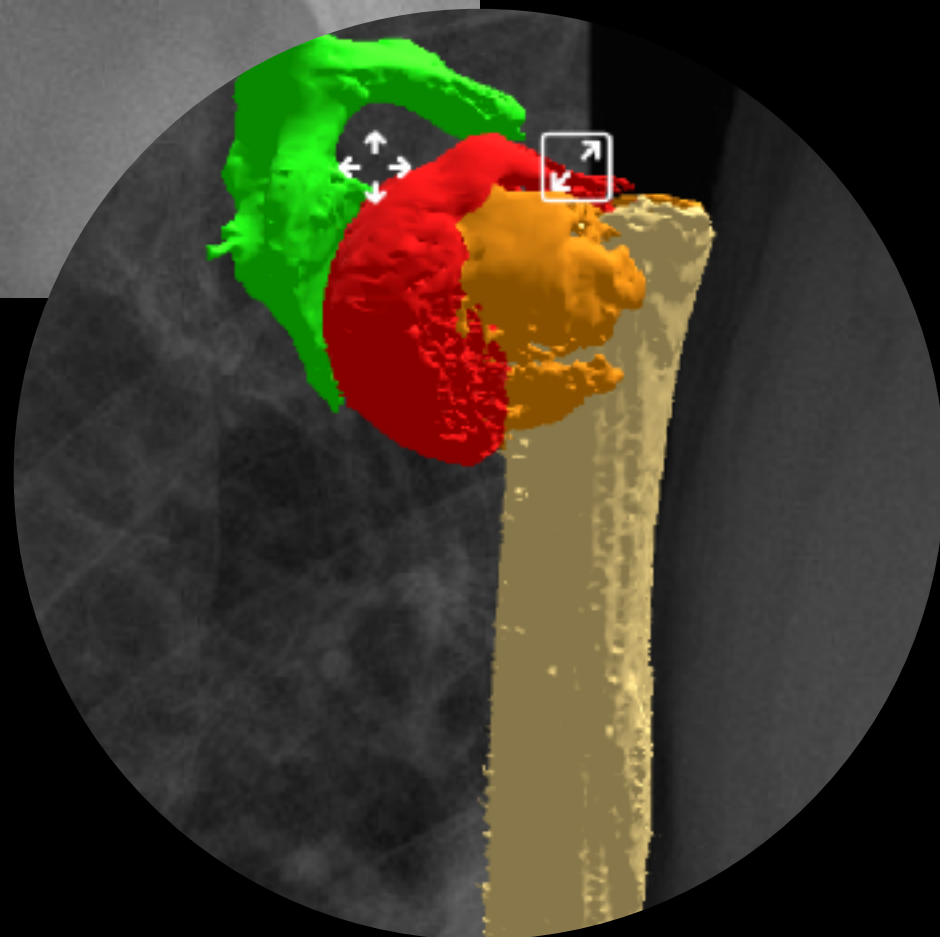
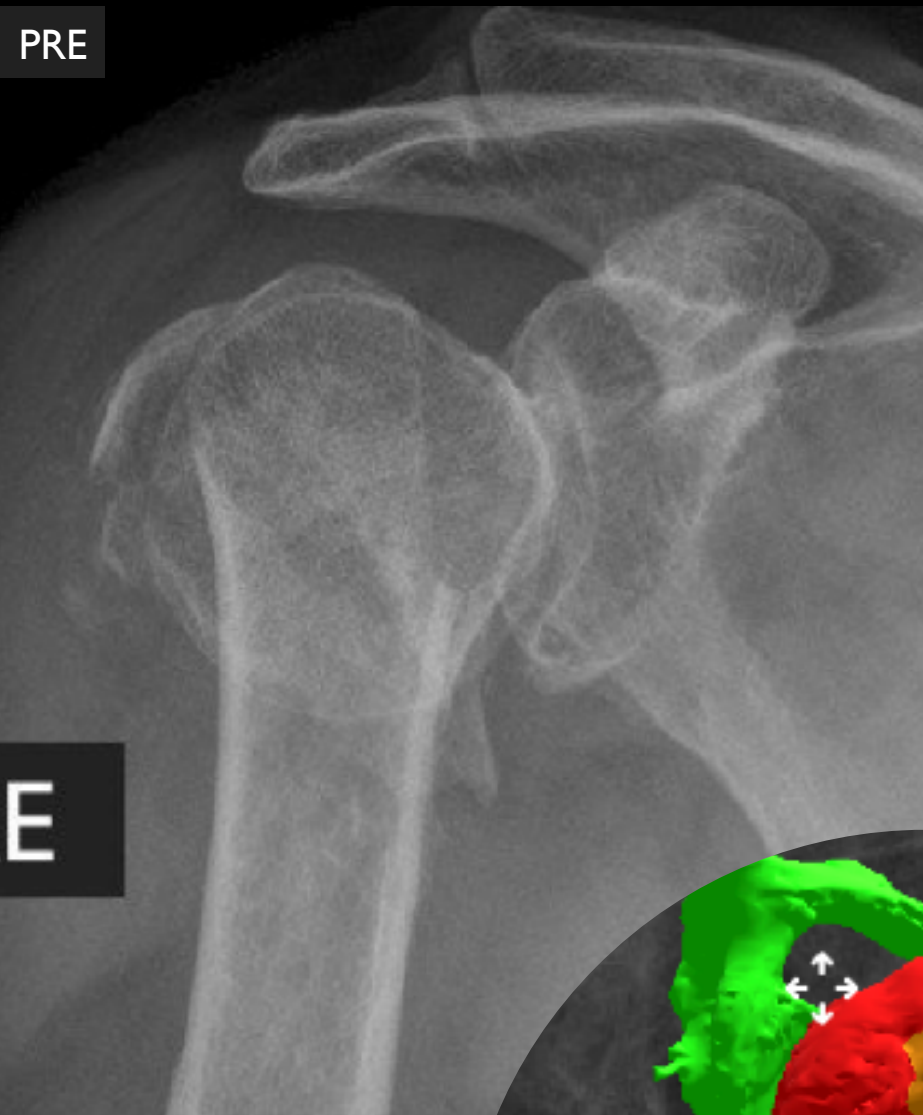






2w

See what has happened! Those screws were probably too short. Although it had a nice buttress, the major tubercle was probably no longer in contact with the head fragment. Therefore, you have to proceed with a prosthesis, which they did.



Is an early failure to be expected?



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## Further reading

Analysis of early failure of the PHILOS in proximal humerus fractures. *Beijing Da Xue Xue Bao Yi Xue Ban* 2016 Feb 18;48(1):683-5.

Locking plates in proximal humerus fractures. P C Strohm 1, P Helwig, G Konrad, N P Südkamp *Acta Chir Orthop Traumatol Cech* 2007 Dec;74(6):410-5.

How to enhance the stability of locking plate fixation of proximal humerus fractures? An overview of current biomechanical and clinical data. 2015 Jul;46(7):1207-14. doi: 10.1016/j.injury.2015.04.020. Epub 2015 Apr 24. Benedikt Schliemann 1, Dirk Wähnert 2, Christina Theisen 2, Mirco Herbort 2, Clemens Kösters 2, Michael J Raschke 2, Andre Weimann 2



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