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Smartphone assisted open reduction control (Fracturosmartoscopy) of tibial plateau fracture

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➤ **Noting to Disclosure**



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✓ INTRODUCTION

- intraoperative open fracturoscopy permitted as significantly improved visualization of fracture fragment displacement, specifically in the postero-latero-central region of the tibial plateau, which are difficult to visualize macroscopically and fluoroscopically



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✓ **OBJEKTIVE**

➤ Is the Fracturosmartoscopy an alternativ to the Fracturoscopy ?



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✓ MATERIAL & METHODS

- In our case series of 10 patients, 6 patients with tibial plateau fracture AO 41B and 4 patients with AO41C was an open fracture reduction with SMART SCOPE (fracturoscopy) guidance performed. In 4 of 10 Patients fracturoscopy showed persistent fracture depression ($> 2\text{mm}$) with the need for intraoperative correction



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✓ SMART SCOPE (KARL STORZ)

1. Smartphone
2. Case (Smartphone holder)
3. Telescope
4. Arthroscope
5. Arthroscope sheath
6. Battery light source



The SMART SCOPE comprises a telescope with quick-release coupling and a matching smartphone case. The case acts as a holder for the smartphone and establishes an optimal connection between the SMART SCOPE and the smartphone camera. Thanks to the quick release coupling a standard arthroscope sheath can be connected to the smart scope.

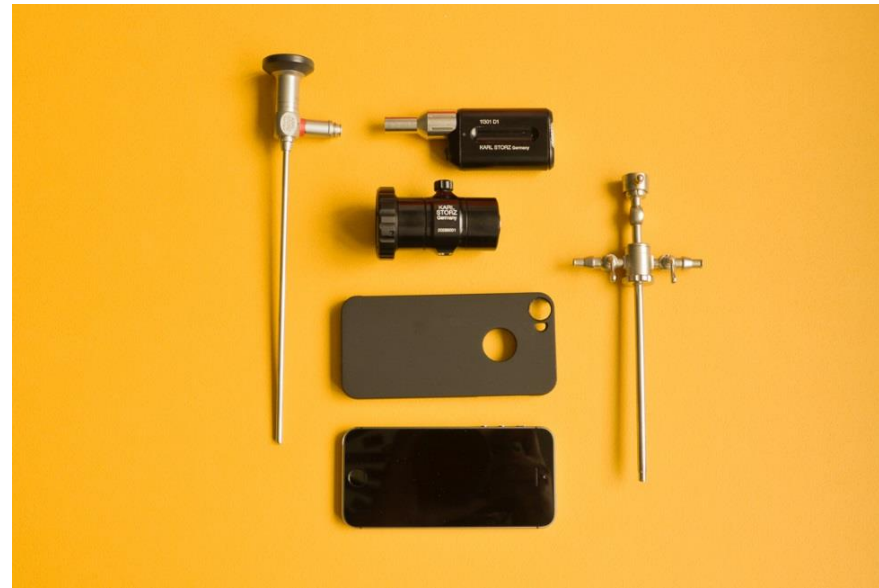


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✓ MATERIAL

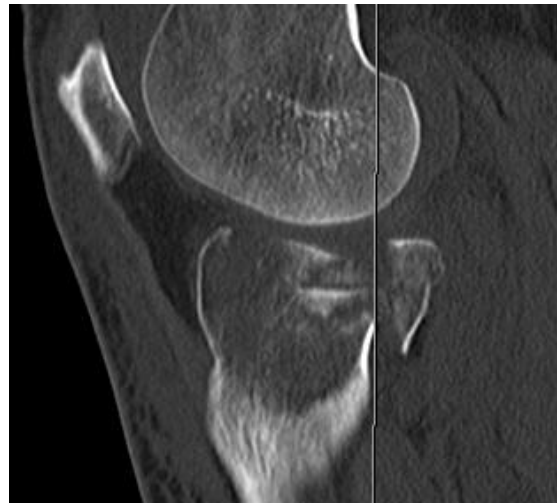


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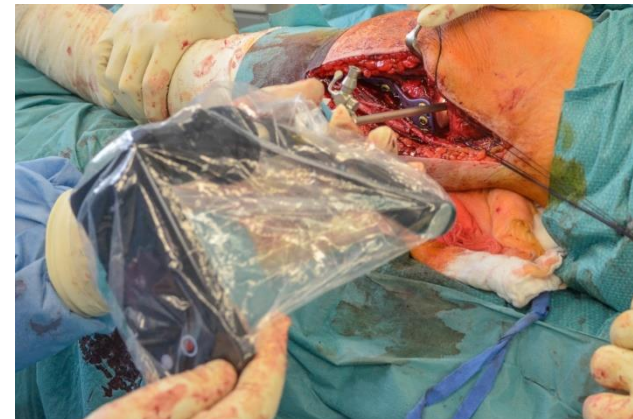
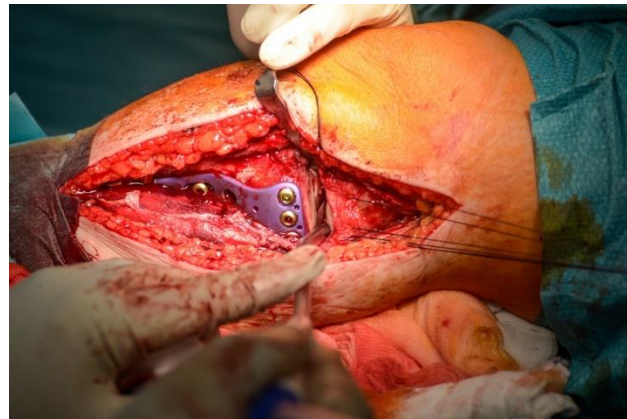


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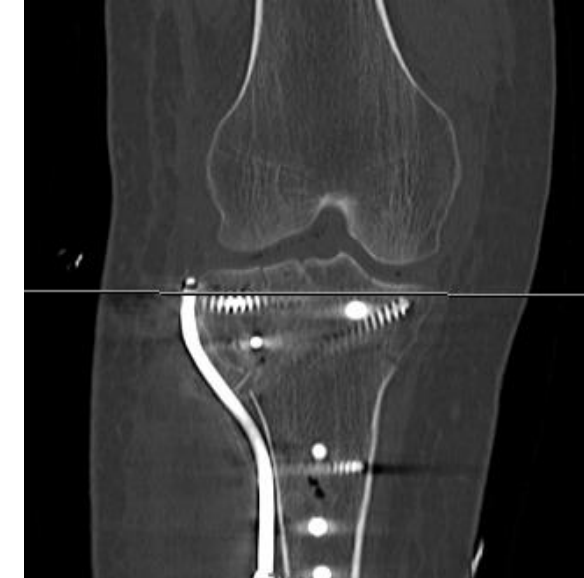
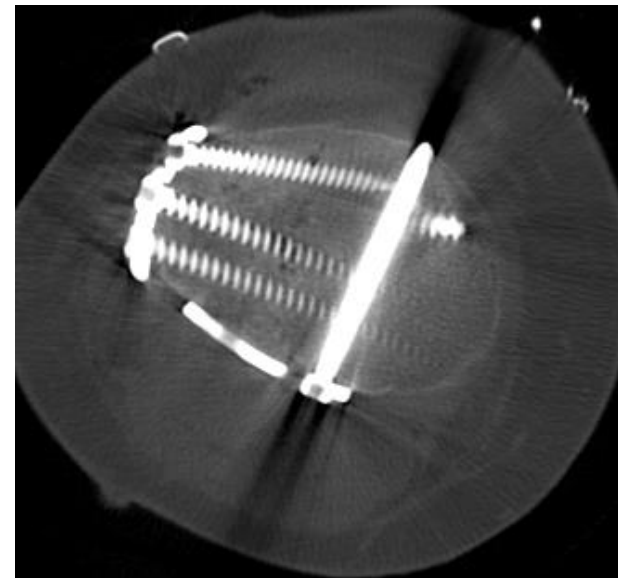
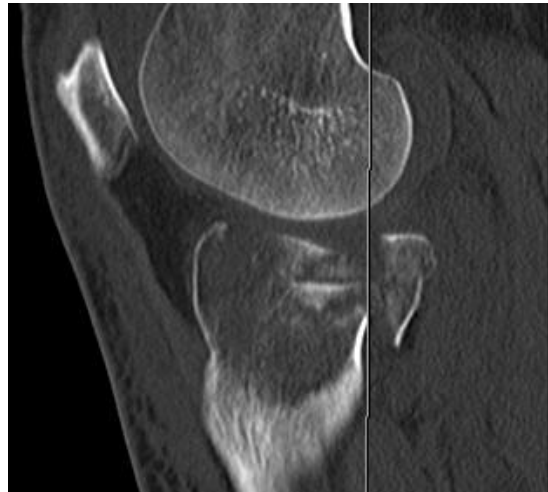
✓ 58 J ♀ Tibial Plateau fracture AO 41C3



✓ Smart Scope Reduction control



✓ Open Reduction and internal Fixation



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FRACTUROSMARTOSCOPY

✓ Advantages

- 1- Quickly available
- 2- Space saving
- 3- cost effective

✓ Disadvantages :

- 1- Ligamentous internal knee injuries cannot be addressed
- 2- Limited screen size



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✓ DISCUSSION

- The fracturo**smart**oscopy can provides a fast, cost-effective and space saving alternative to intraoperative fracturoscopy and/or intraoperative CT-scan. Smart Scope assisted reduction control may also be suitable for quick inspection of other joints during the operative phase of surgery



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