

Upper Limb Injuries in Wintersports

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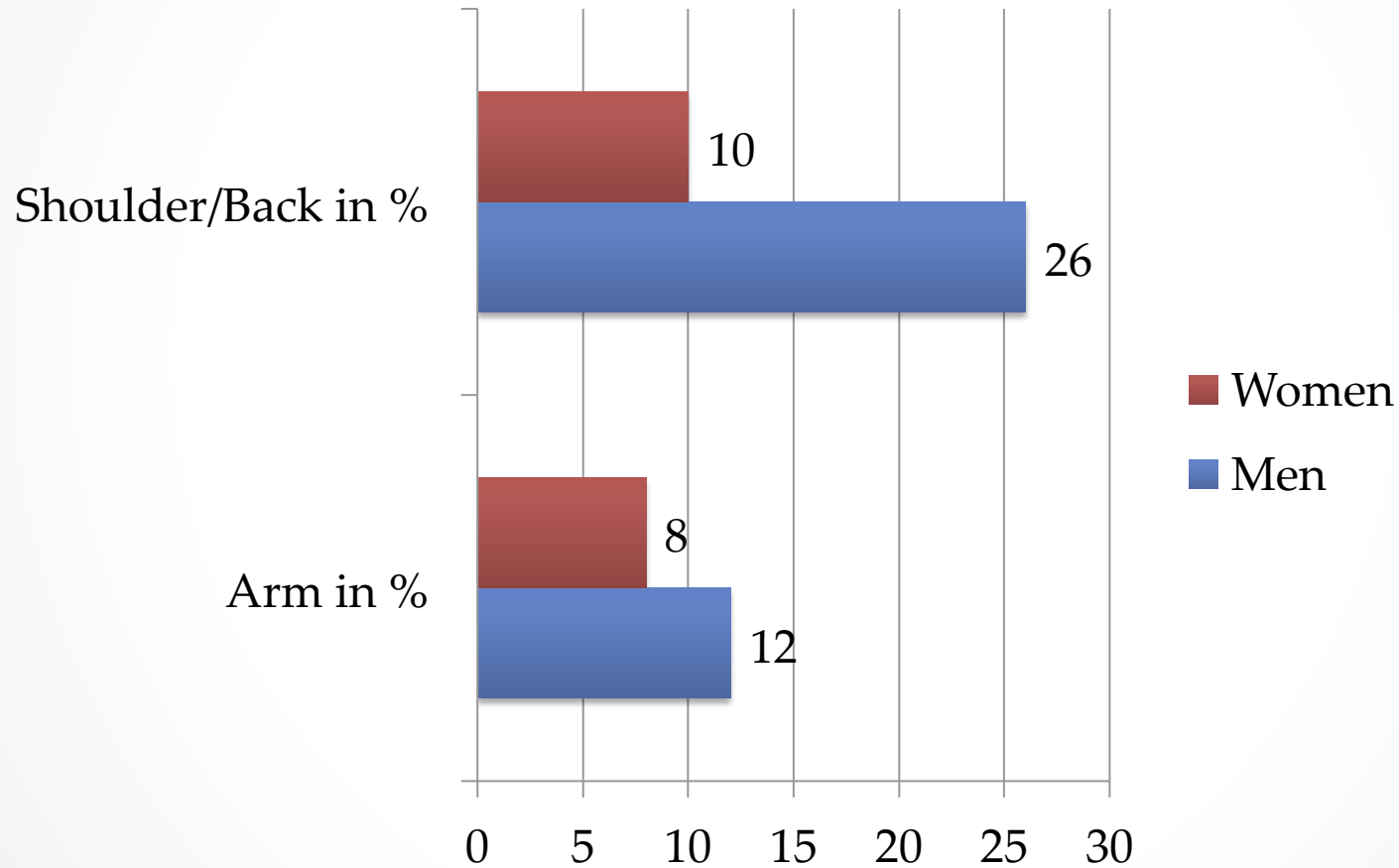
Causes of Injuries

- Self-inflicted fall 87%
- Collision with other skier/snowboarder 8%

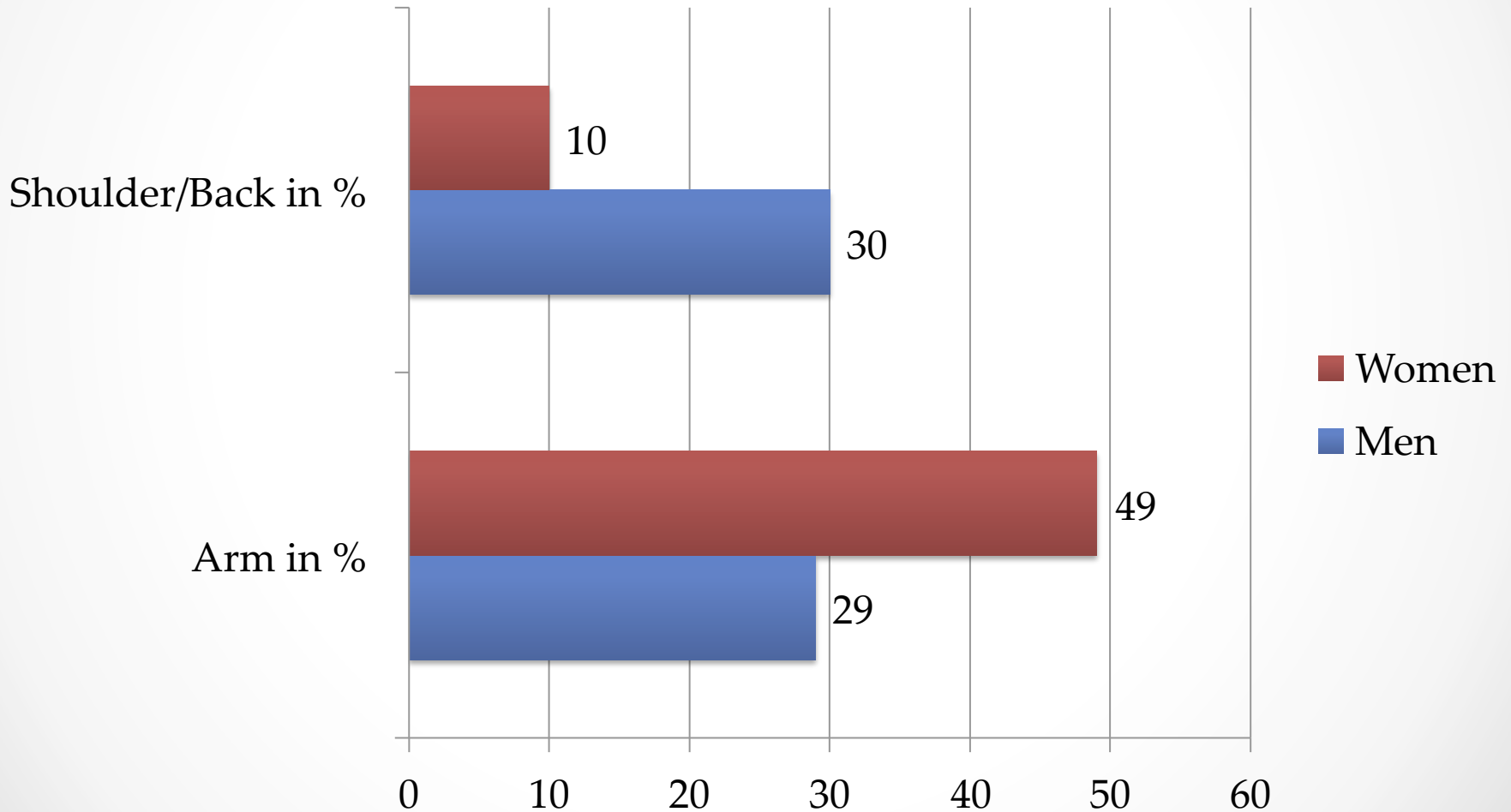
Injured Body Parts

- Skiers:
 - Knee 41%
 - Shoulder/Back 18%
 - Arm 10%
 - Head 8%
- Snowboarders:
 - Arm 38%
 - Shoulder/Back 23%
 - Head 8%

Skiers



Snowboarders



Injuries in Terrain Parks

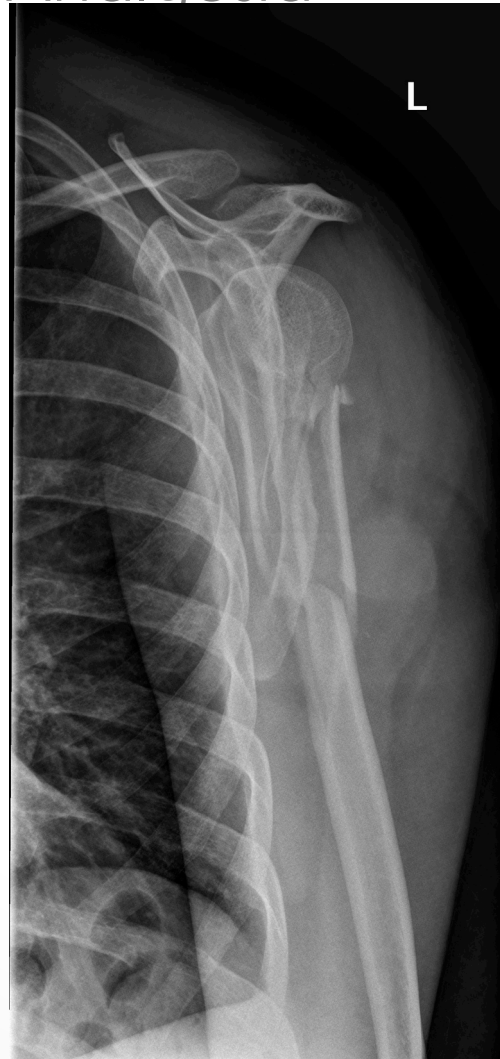
- Patients younger, more likely to be from local area, more likely to rate themselves as experts
- Injuries more likely to affect upper extremity
 - 40% vs. 20% of injuries on normal slopes
- 76% Fractures (of all upper extremity injuries)
- 17% Joint Dislocations
- Severity of injuries does not differ significantly from injuries sustained on non-terrain park slopes

Sometimes things get bad

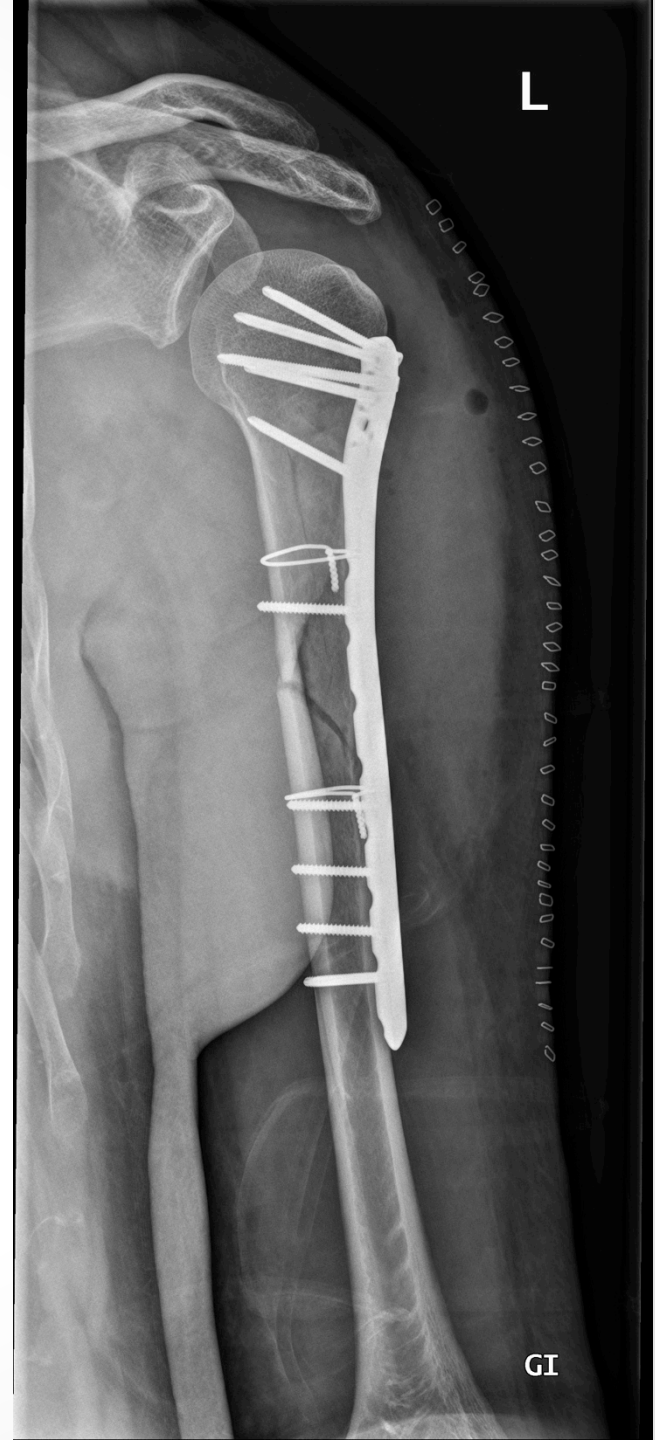


What we see and do all
winter

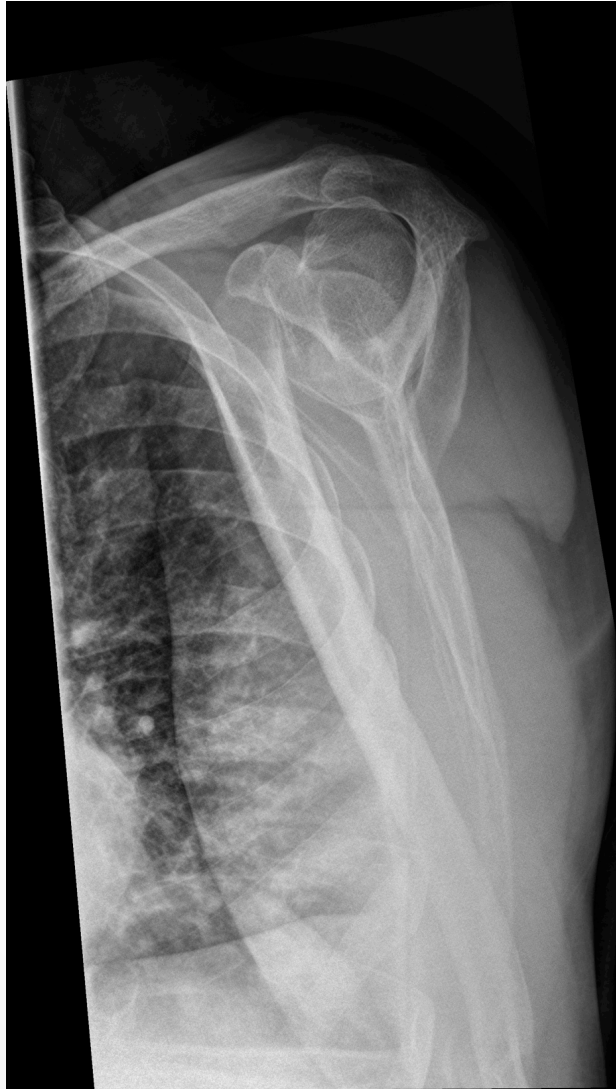
- Male, 49a, German
- Skier
- Second. Diagnosis: Commotio cerebri
- Sedation due to Analgesia

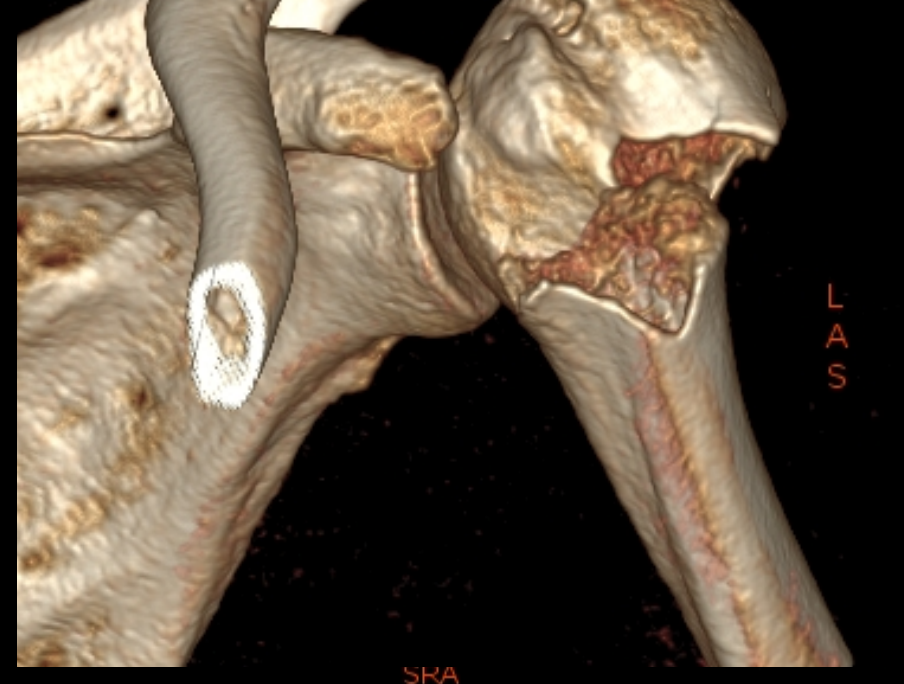
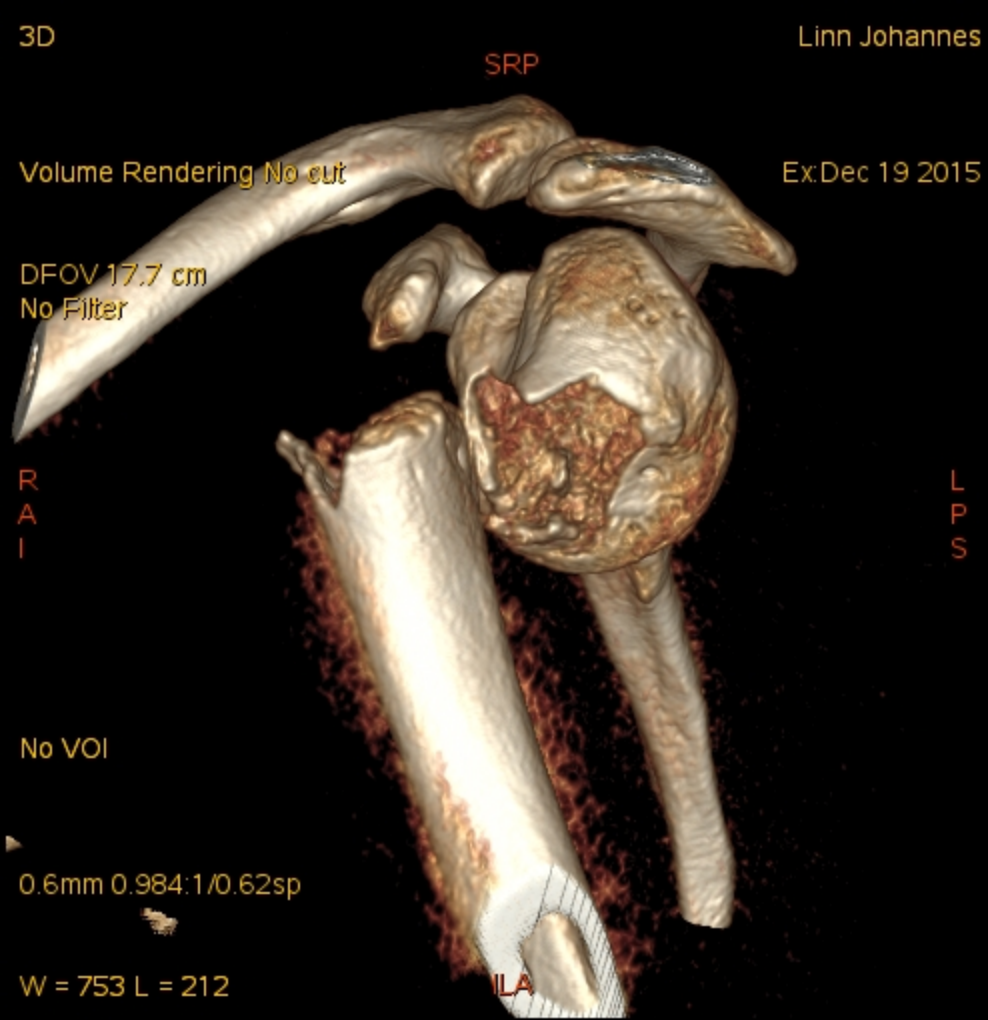


- ORIF performed 10 days after injury
- transferred home 4 days after operation
- After care: Shoulder-Arm-Sling for 4-6 weeks post OP
- Active-assisted Movement 14d after surgery



- 55a, male, german
- Slipped at parking lot of ski resort
- Admission via helicopter

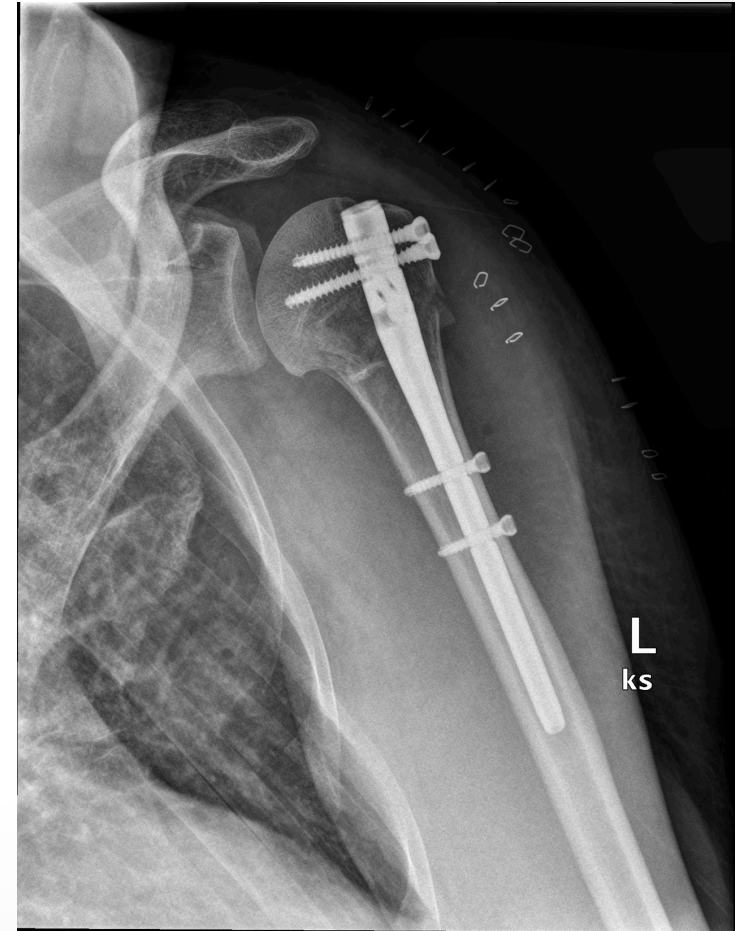
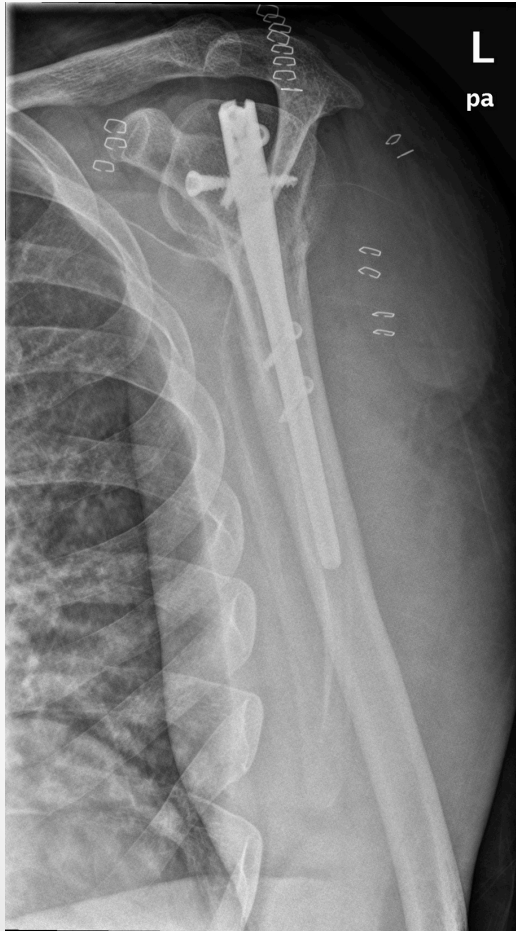




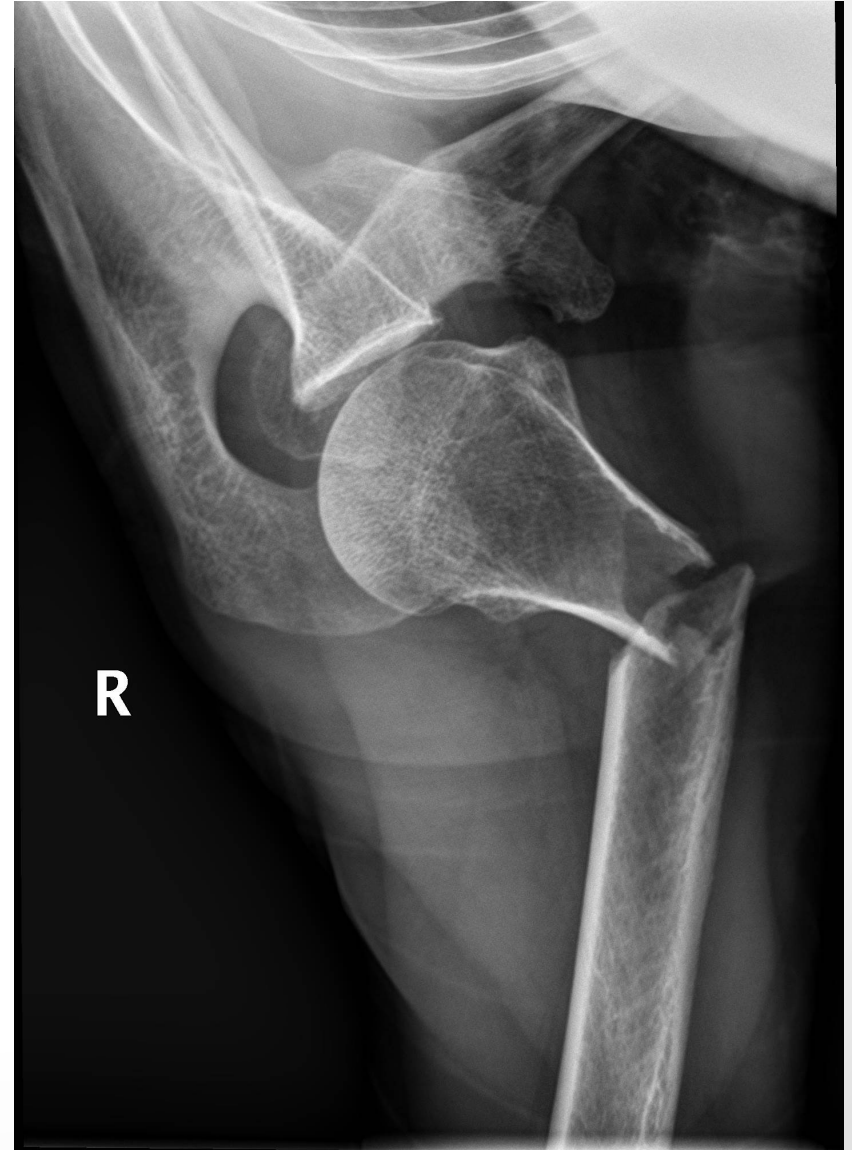
IM-Nailing performed at day of admission



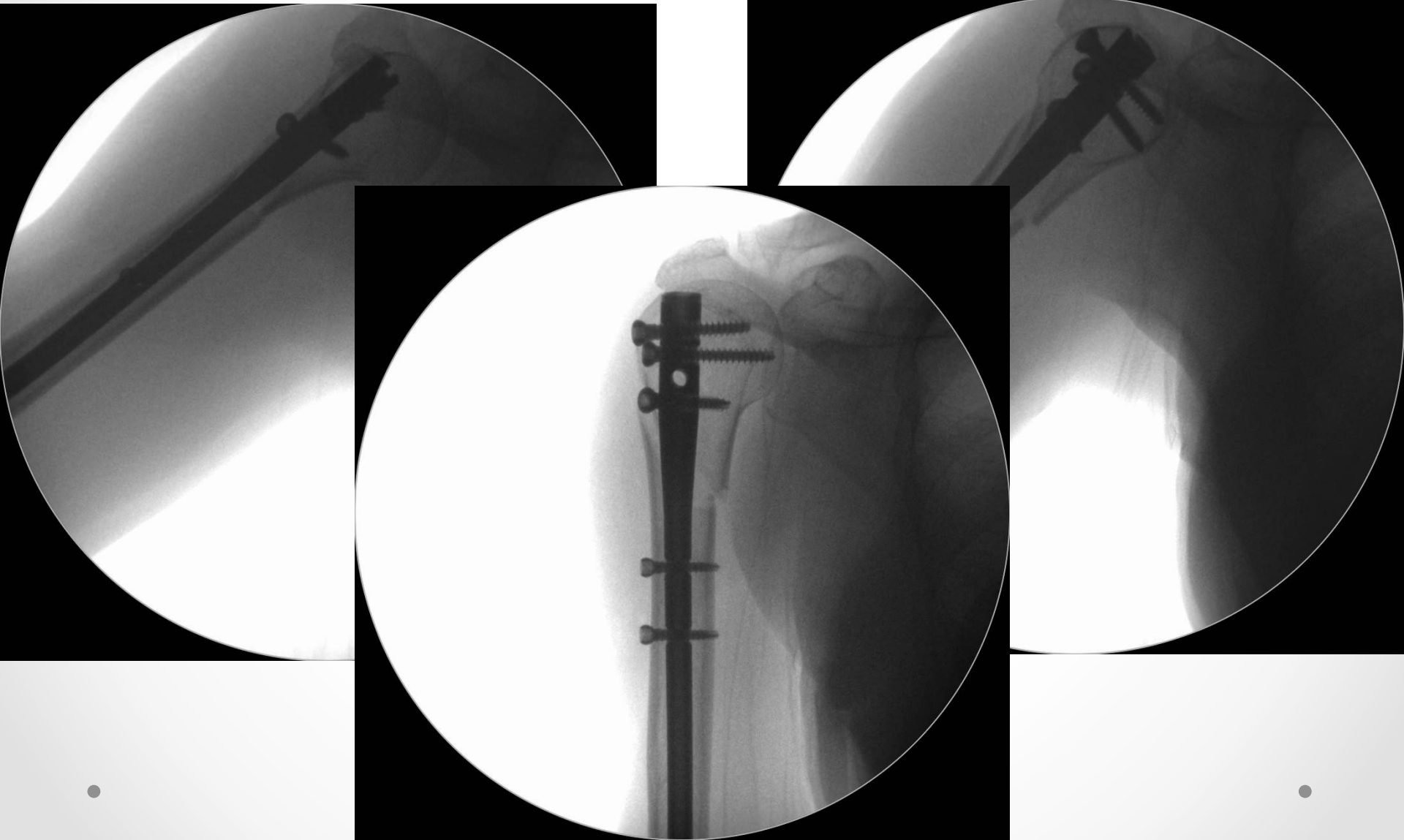
- Transferred to home-hospital 3 days after surgery
- Recommended after-care:
- Shoulder-Arm-Sling 4-6 weeks post OP
- Passive and active assisted Movement 10 days after surgery



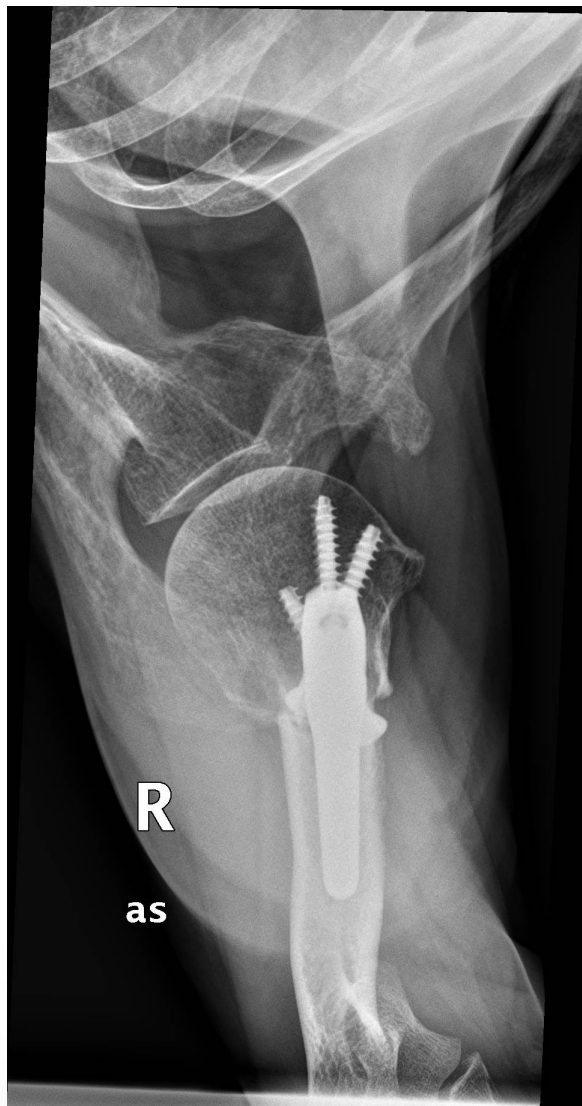
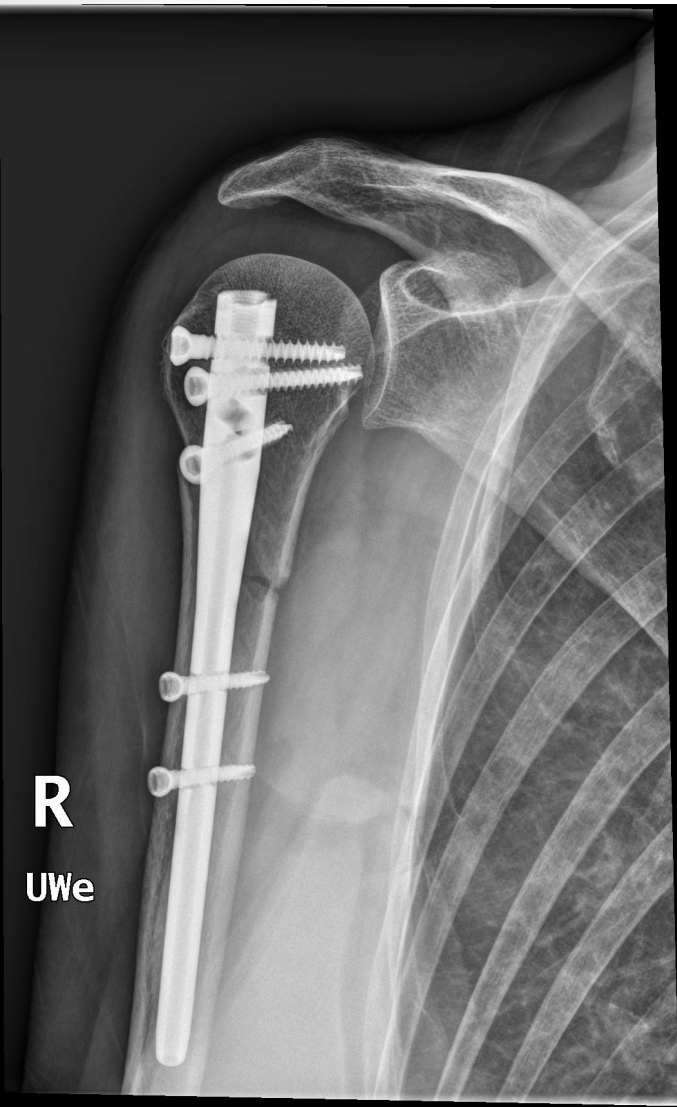
- 57a, female
- Fell after skiing at the parking lot
- 1° open subcapital Fracture



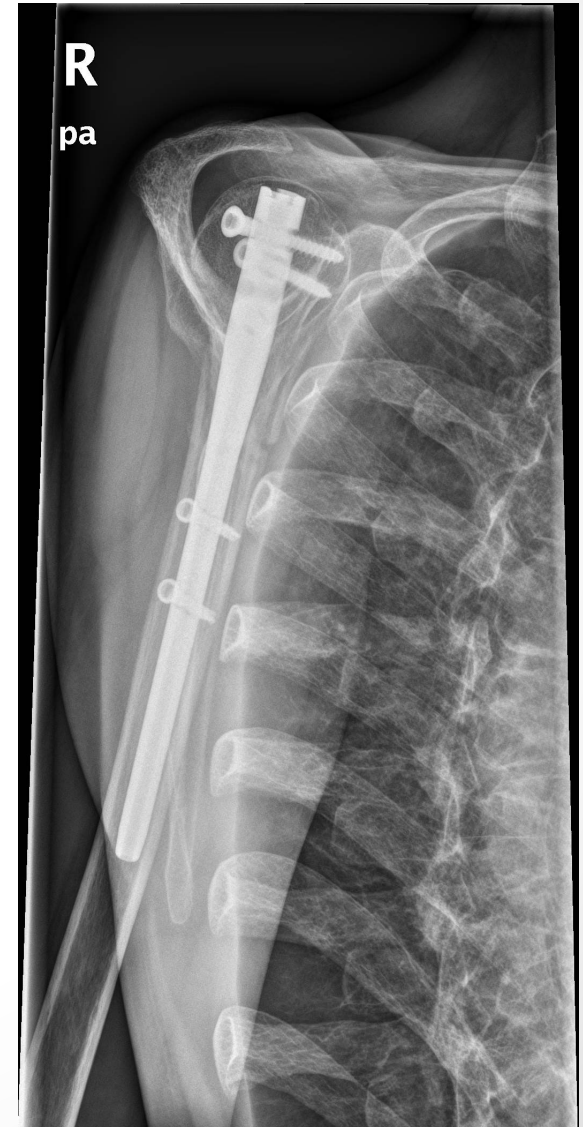
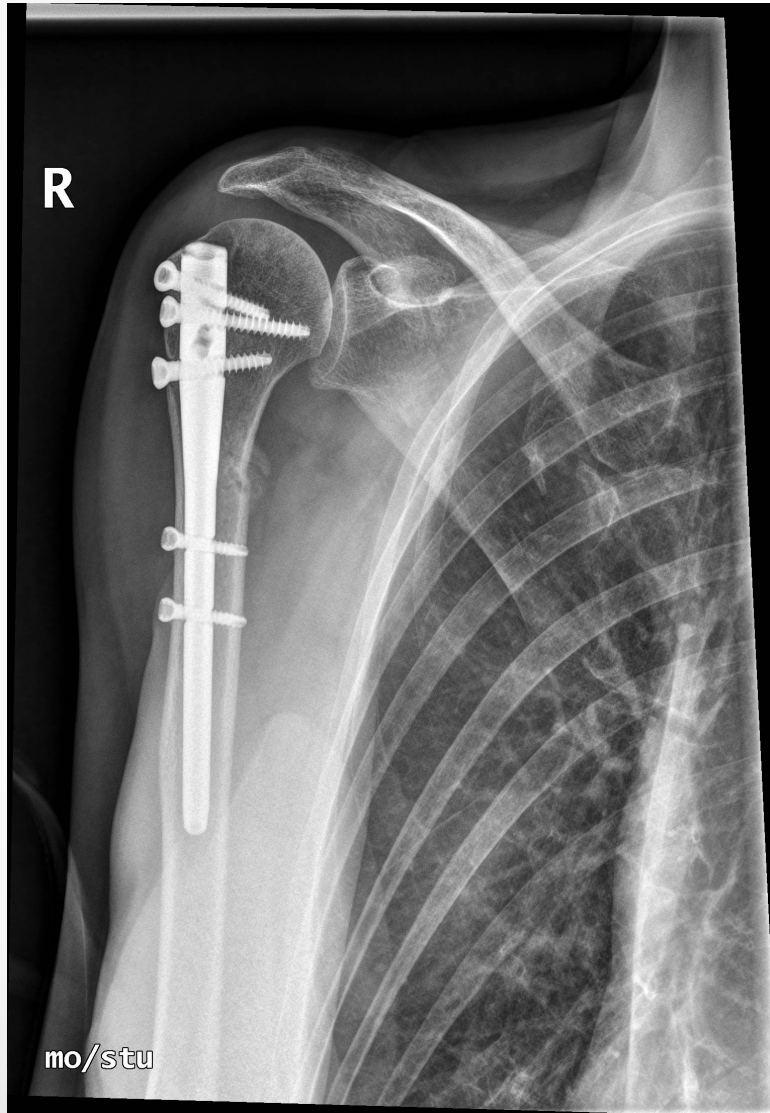
- Closed reduction and IM-nailing at day of admission



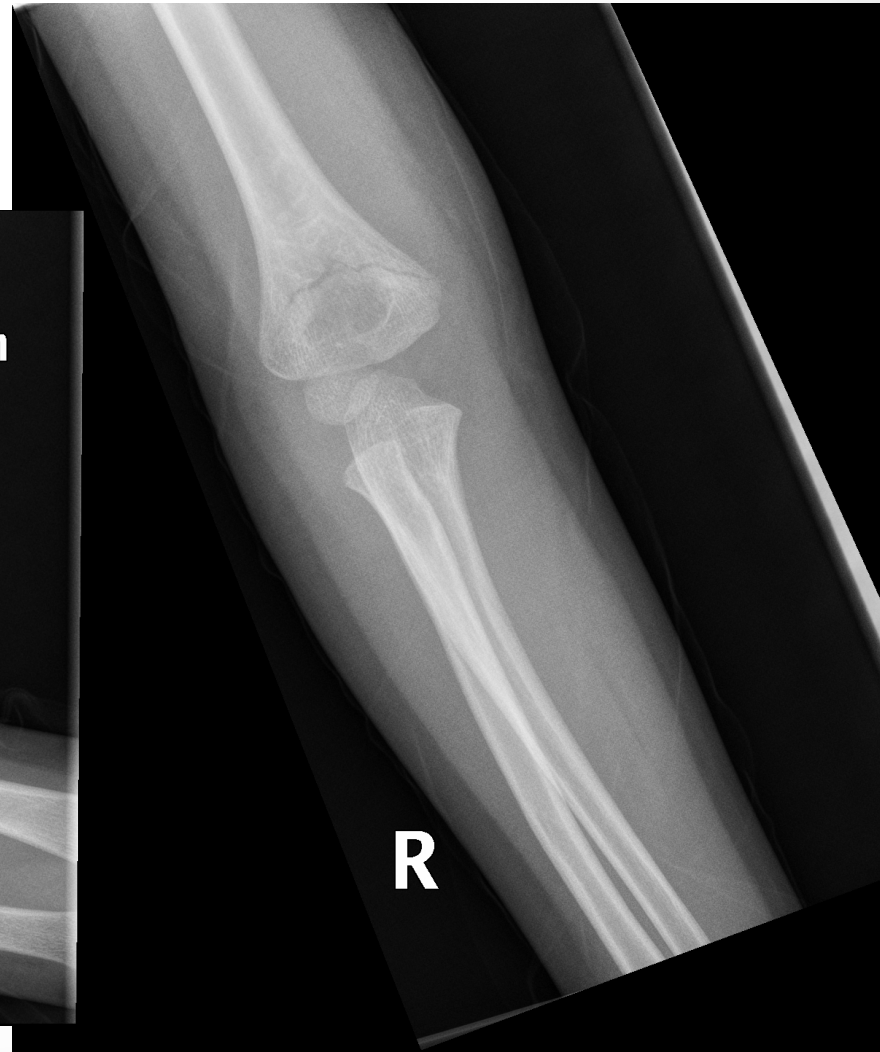
- 14 days after surgery start with pendulum exercises and physiotherapy
- Shoulder-Arm-Sling removed 4 weeks after surgery



- 6 weeks post OP 45° Ante-/Retroversion/Abduktion
- 10 Weeks post OP: Apley scratch test, Abduktion 90°, Anteversion 100°
- 16 Weeks post OP, full weight bearing allowed



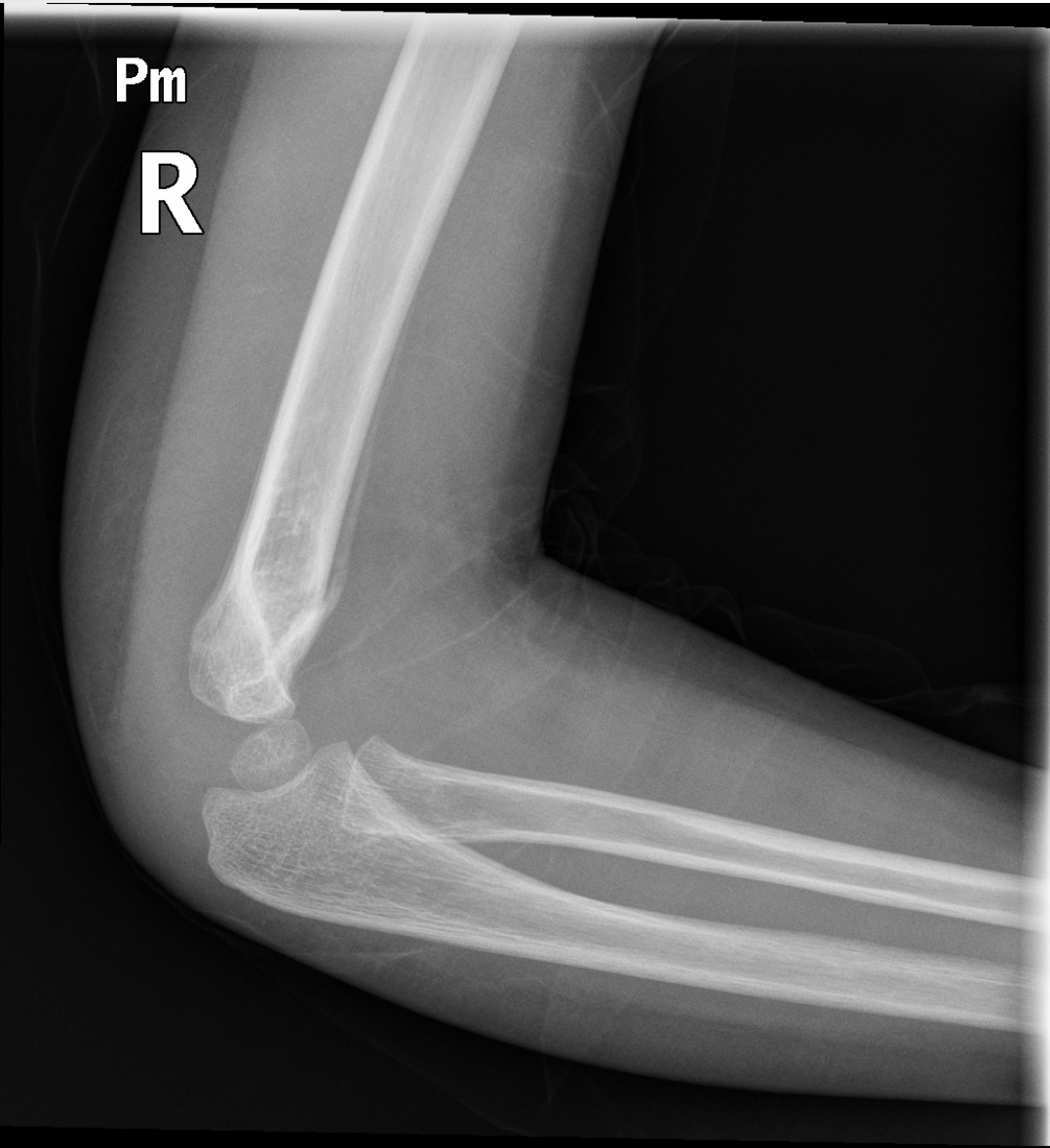
- 6a, male
- Collision with friend on ski-slope



- Treated in cast for 3 weeks
- After cast-removal:
 - Pro- and Supination not limited
 - Flexion/Extension 0-30-90°



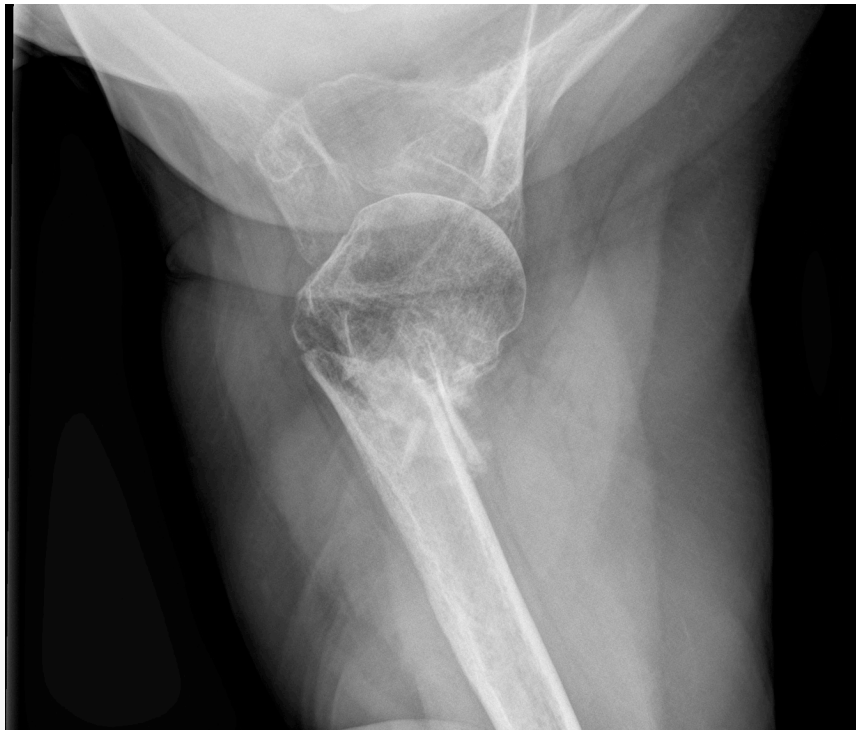
- 2 weeks after cast removal full ROM



- 59a, female
- Direct trauma on shoulder
- First admission 2 days after accident, massive swelling



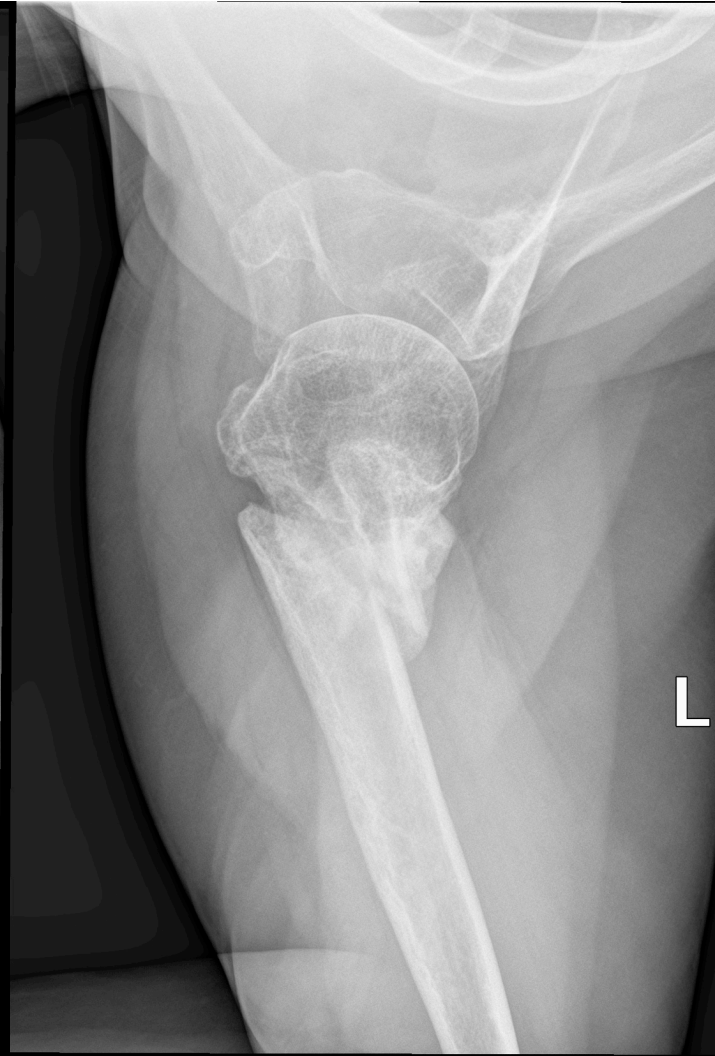
- First control 6 days after injury, OP recommended
- Second control 14 days after injury, OP again not wanted
- Shoulder-Arm-Sling removed 7 weeks after injury
- 8 weeks after injury, active-assisted anteversion 100°
abduction 60°
- 12 weeks: active movement: anteversion 120°,
abduction 110°



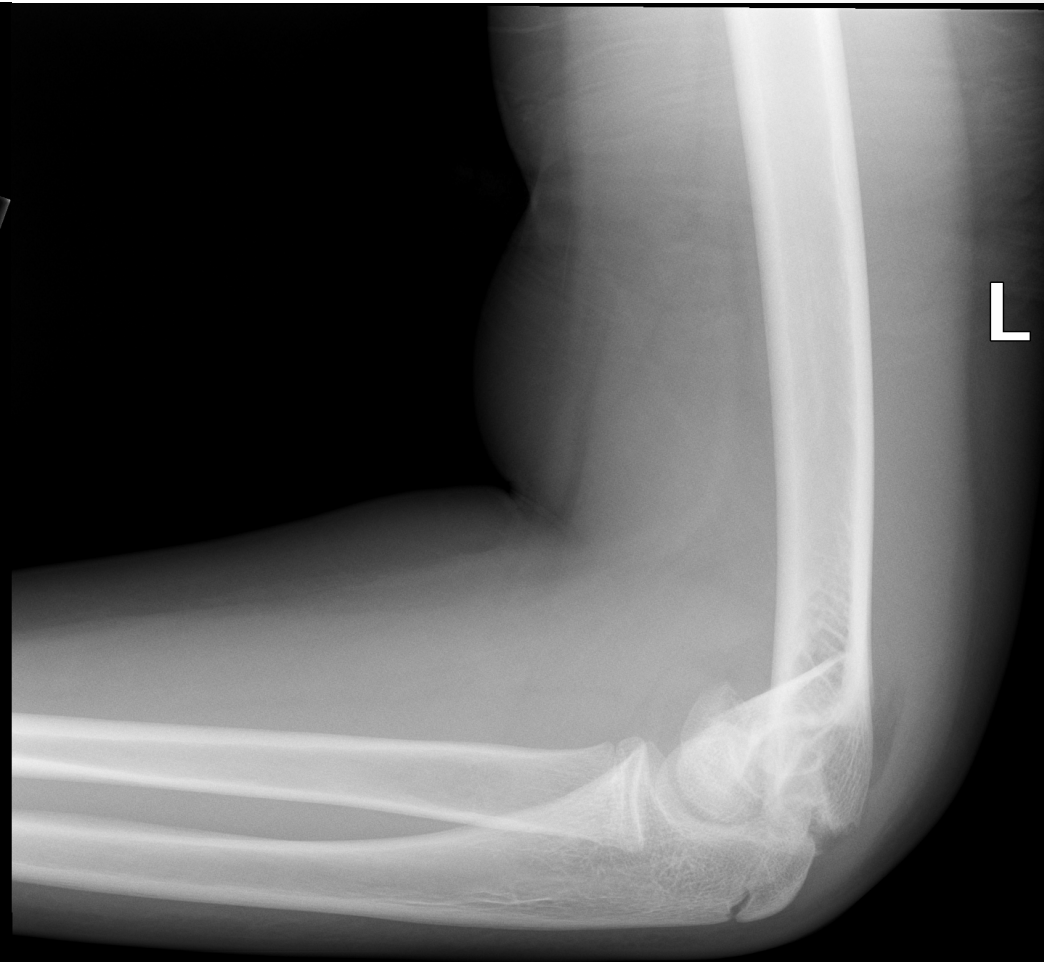
- 20 weeks: CT: Non-union, no pain, patient happy, no restrictions in daily life



- 36 weeks after Injury
- Allmost no limitations in active movement



- 13a, male
- Injury in the terrain park
- Direct impact on elbow



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e Rendering No cut

12.5 cm
n 3D+

Rotation: 30.0 deg.

ILA

R
A
I

350/1

Nb Views: 12

0.531:1/0.31 sp

27 PM
00 L = 350

SRP

Surface
Ex: 1940

Se:3
Volume Rendering No cut

DFOV 12.5 cm
Smooth 3D+

P
R
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No VOI

0.6mm 0.531:1/0.31 sp

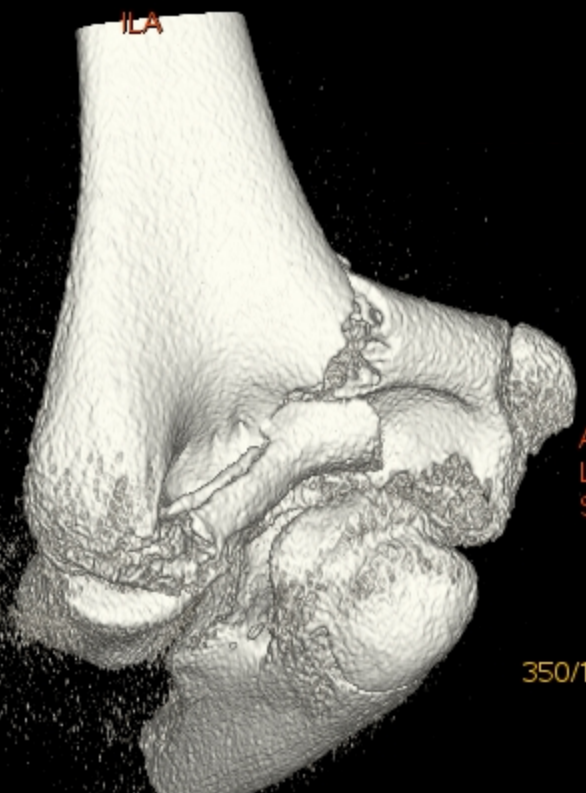
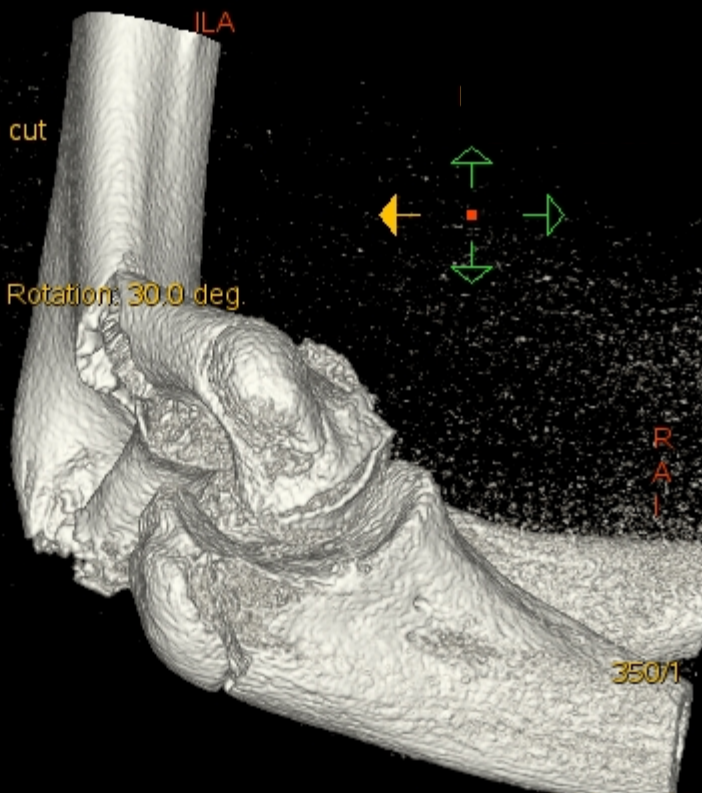
03:37:27 PM
W = 2500 L = 350

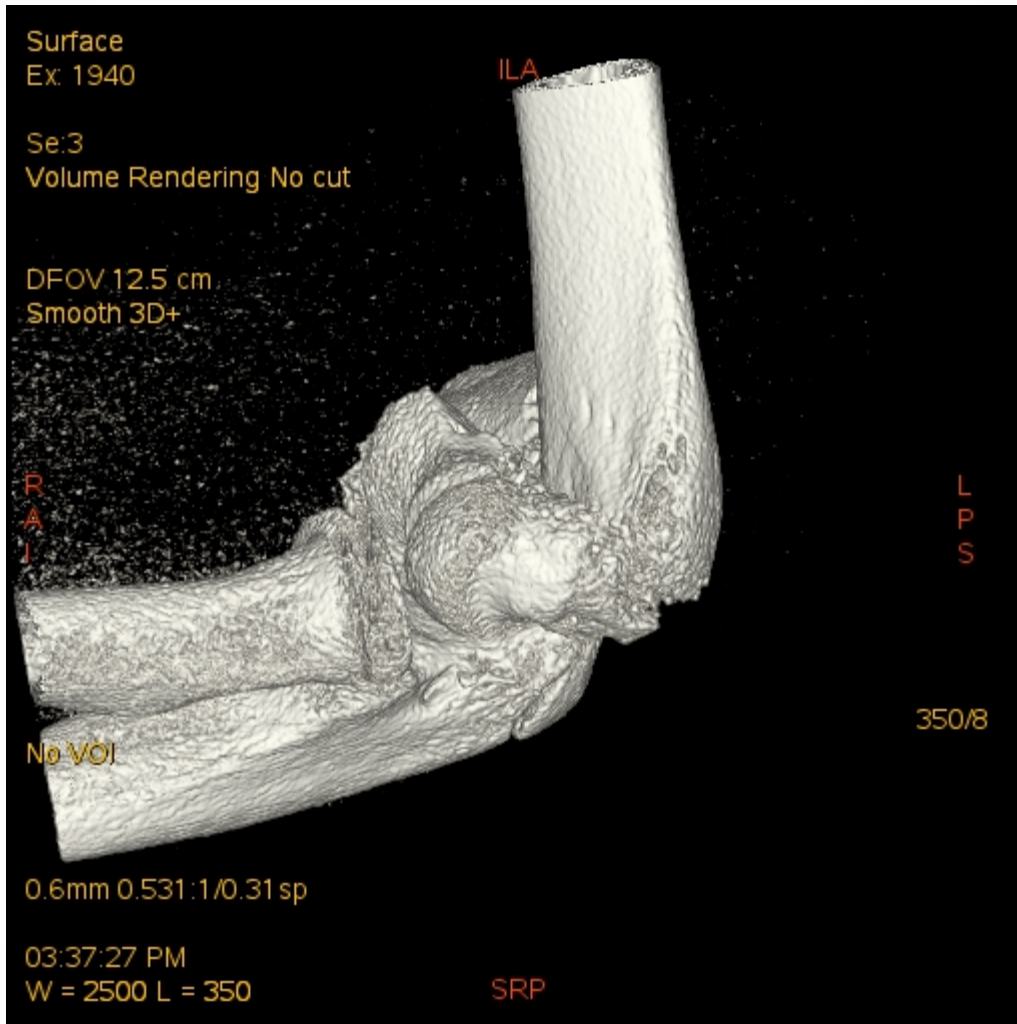
ILA

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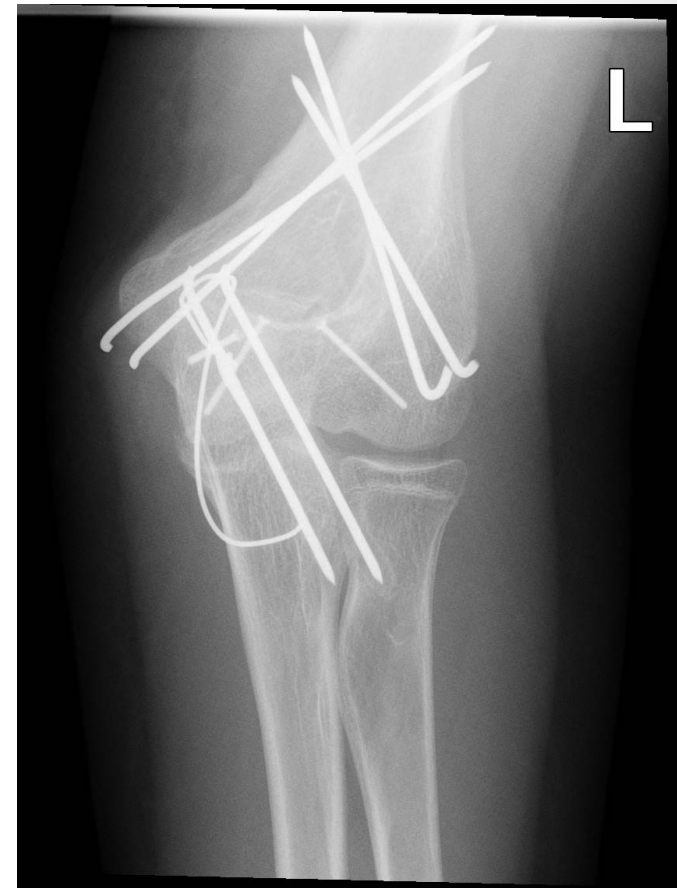


- ORIF performed at day of admission





- 4 Weeks cast removed
- 7 weeks post OP: 0-80-100° Flexion/Extension, 20-0-20° Pro-/Supination



- 11 weeks post OP: 0-50-110° Flexion/Extension, 25-0-20° Pro-/Supination



- Partial Implant Removal 20 weeks after injury







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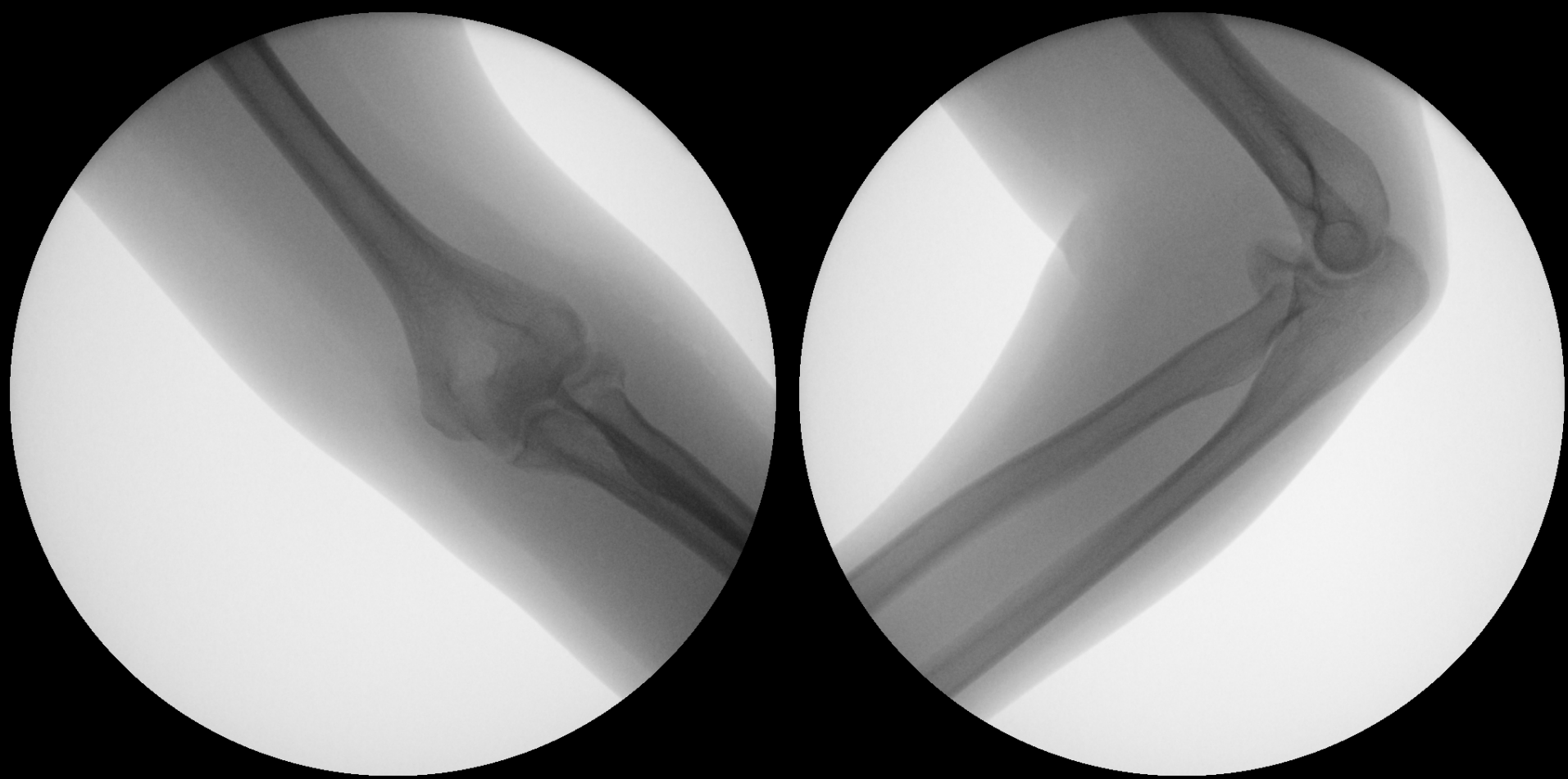


- 34 weeks after implant-removal (54 weeks post trauma)
- 80-0-85° Pro-/Supination, 0-0-140° Extension/Flexion

- 25a, female
- Fell while snowboarding
- Initially no neurolog. deficit



- Reposition after puncture and aspiration 20ml blood followed by injection of 10ml local anaesthetic



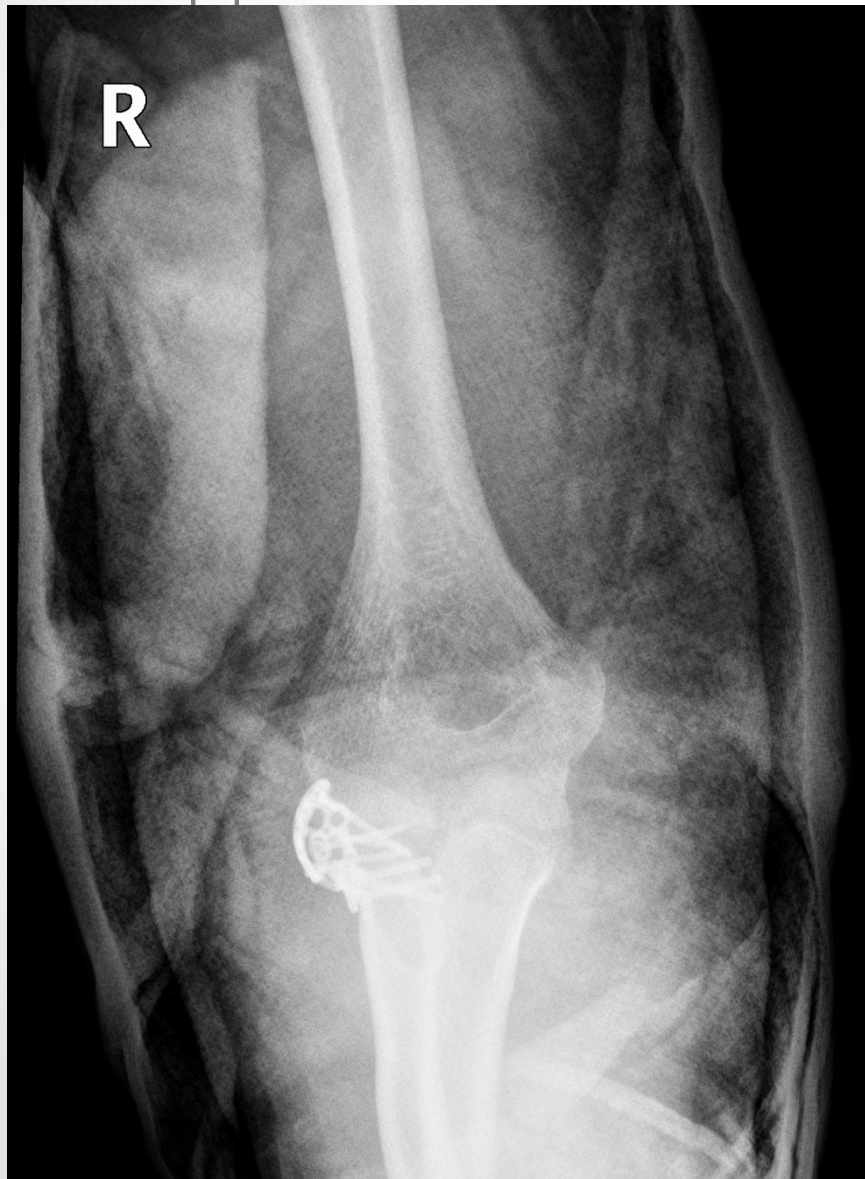
- After reposition no neurolog. deficit



- ORIF performed on day of admission
- Post OP incomplete radialis-paresis with motoric deficit, no paraesthesia



- Dismissal 4 days after surgery
- motoric deficit already improving
- Upper arm cast recommended for 4 weeks post OP



- 15a, female
- 5th finger injured on ski-lift



- Closed reduction and IM-splinting performed 4 days after injury 1.8mm K-Wire



- 4 weeks post-OP cast removed
- Movement slightly restricted

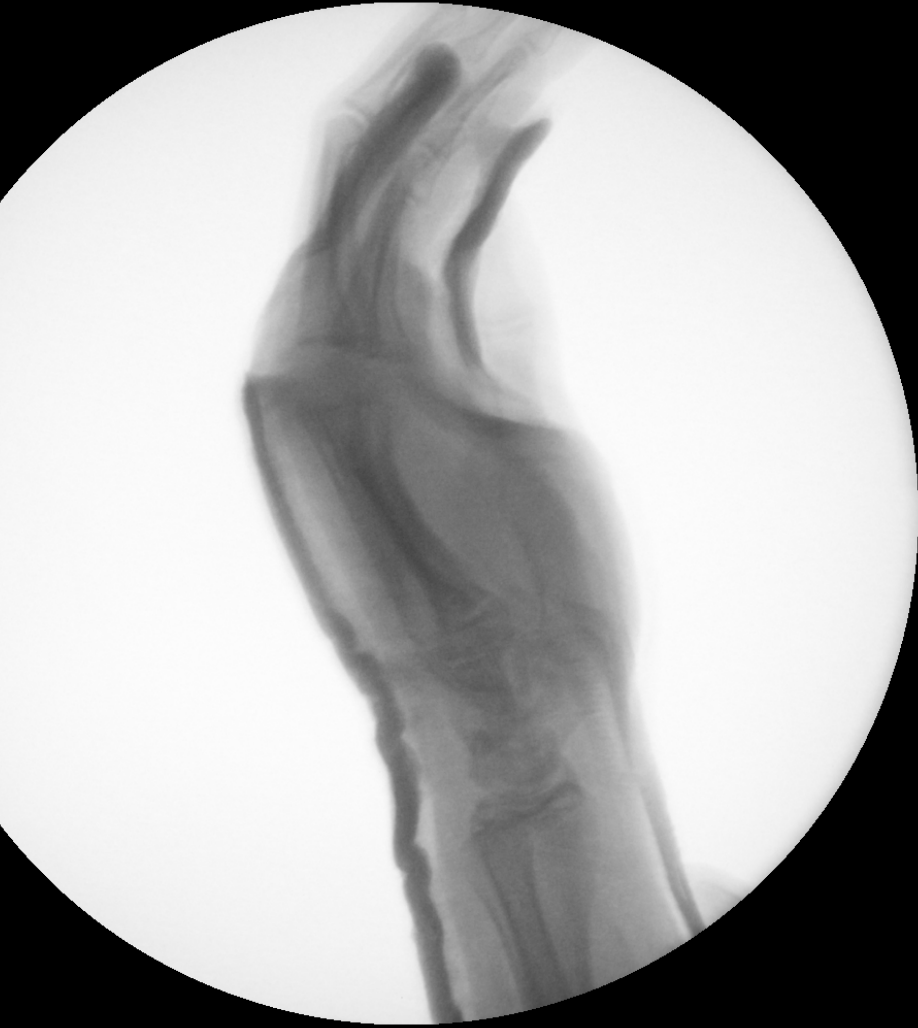


- Planned metal-removal 6 weeks after surgery

- 18a,male
- „apres-ski“ injury
- First admission 1 week after trauma



- Initial reposition under image intensifier and palmar splint



- First control after 1 week



- Second control 2 weeks after trauma
- Further dislocation



- 22 days after trauma open reduction and intramedullary splinting



- 14 days after surgery

