Volar percutaneous scaphoid osteosynthesis with cannulated screw and arthroscopic assistance

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The aim of treatment is to achieve accurate articular apposition of the two fragments, taking care that they are correctly aligned
and that no malrotation exists.

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Technique

- Local-regional anaesthesia
- Tourniquet
- Outpatient surgery
- Short distal palmar approach

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Technique

First reduction by wrist traction and arthroscopic assistance or control

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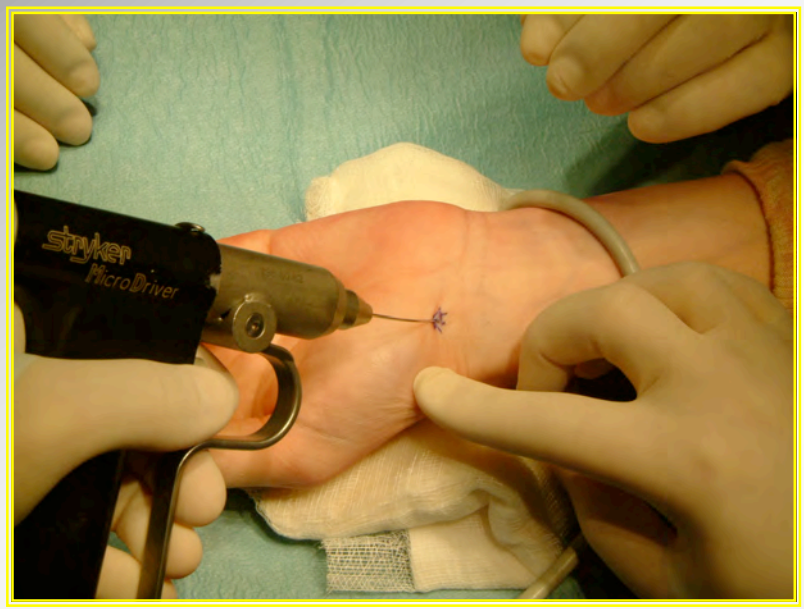
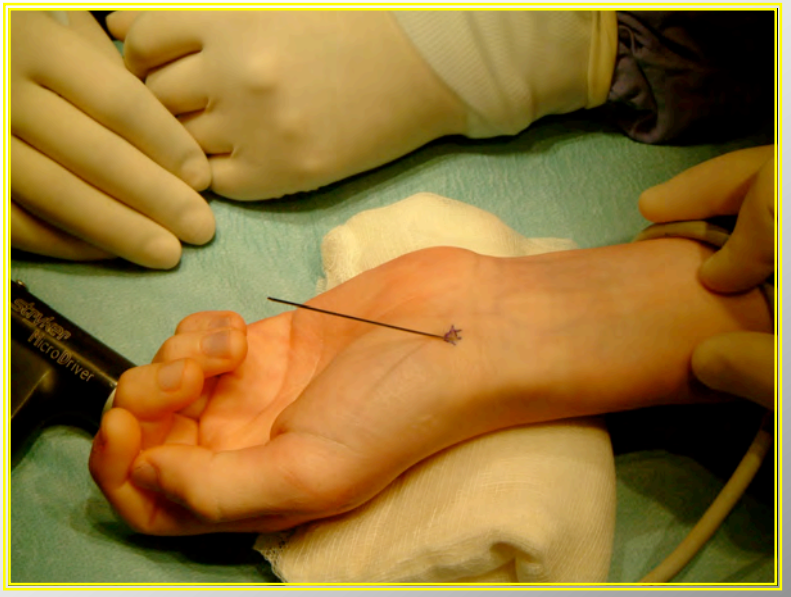
Technique

Temporary Kirshner wire to stabilize the fracture with fluoroscopic control





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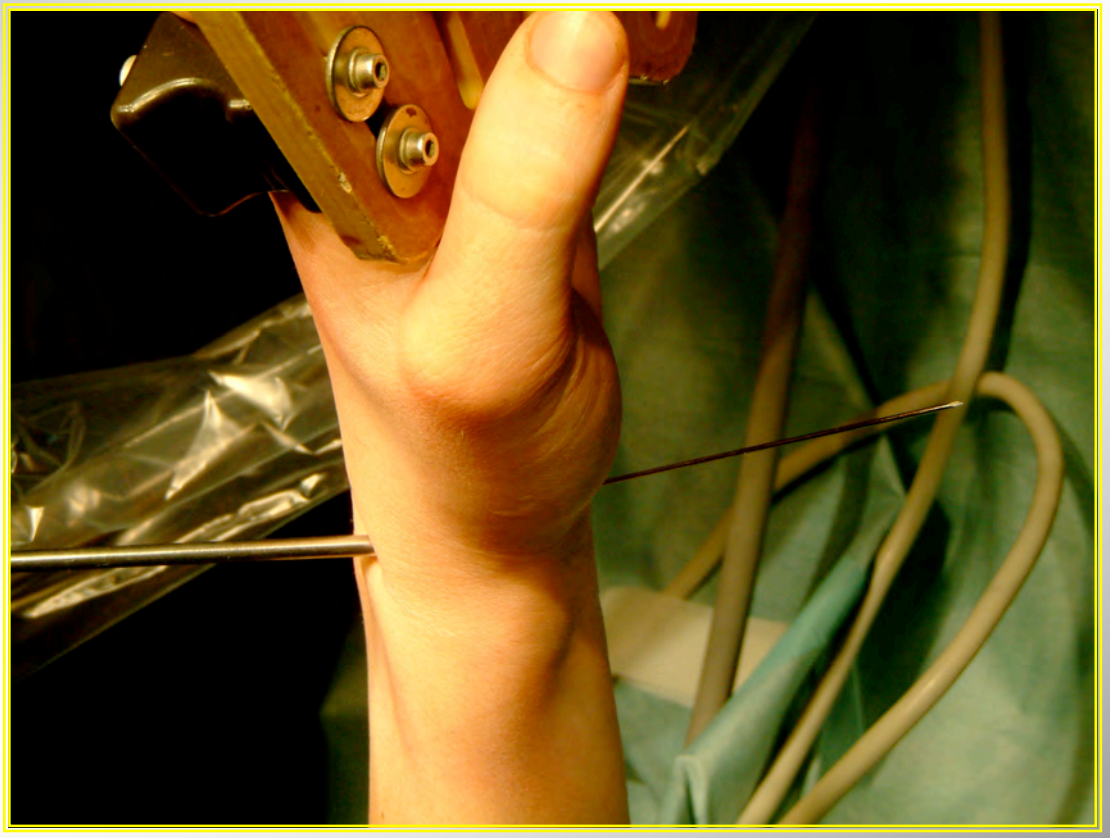
Technique

Arthroscopic control, radio and medio carpal
(sometimes reduction with a small 3-5mm chisel)



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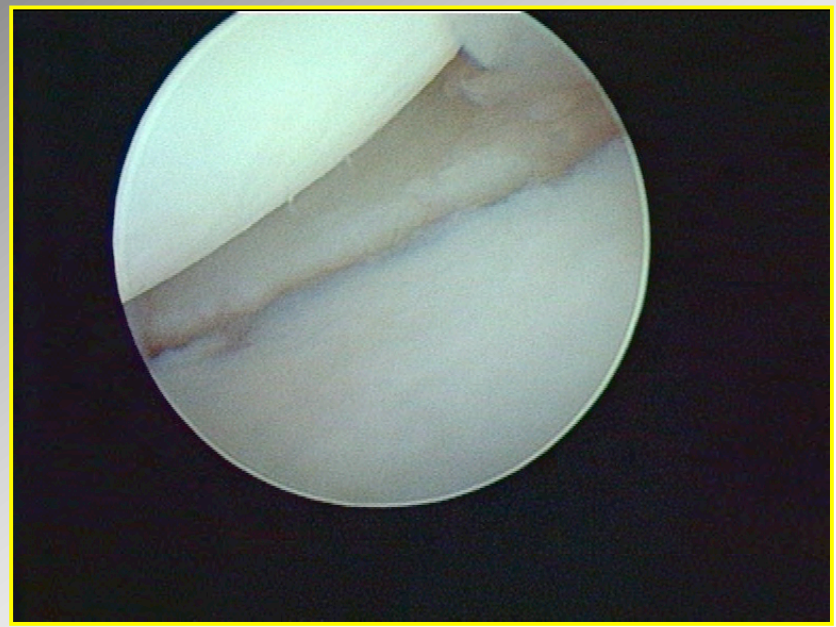

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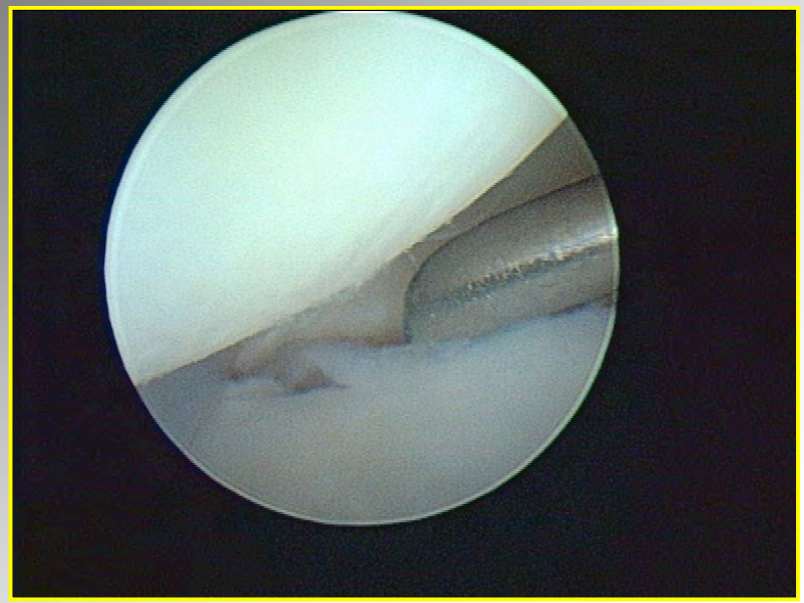

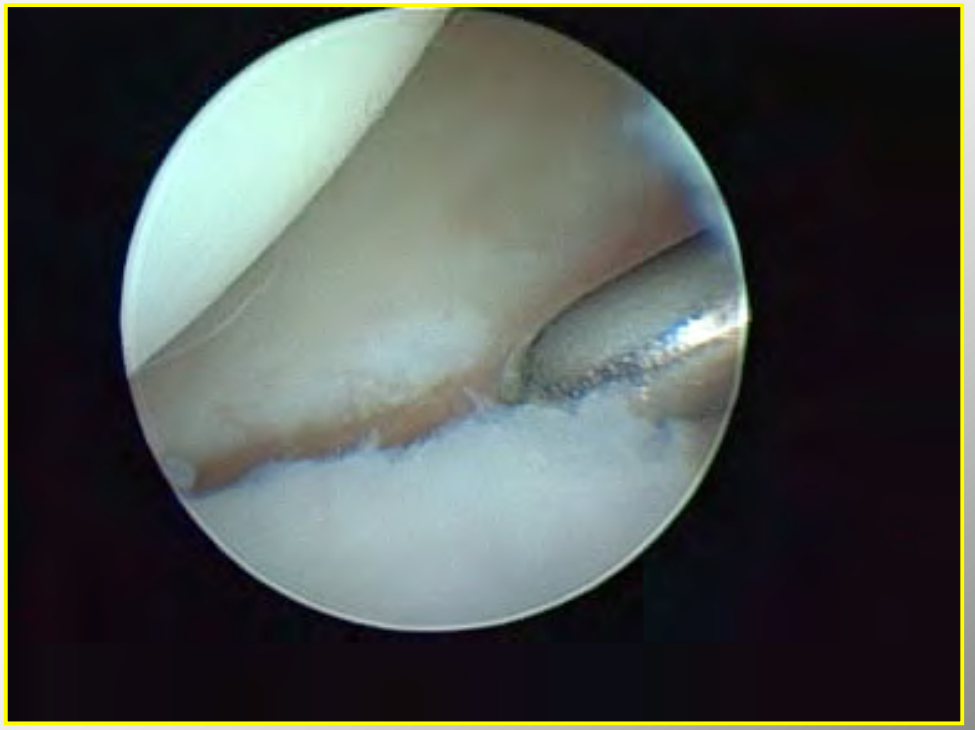

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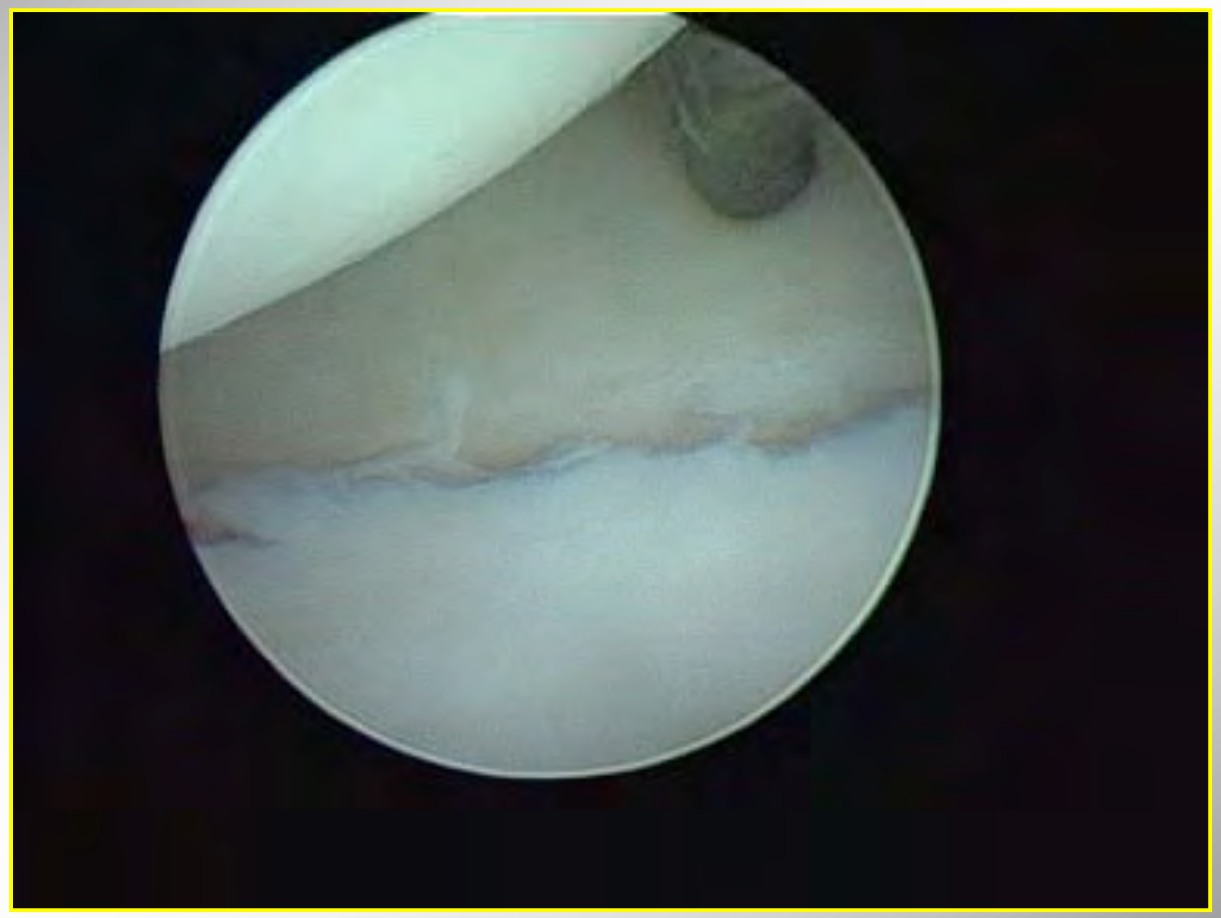
Technique



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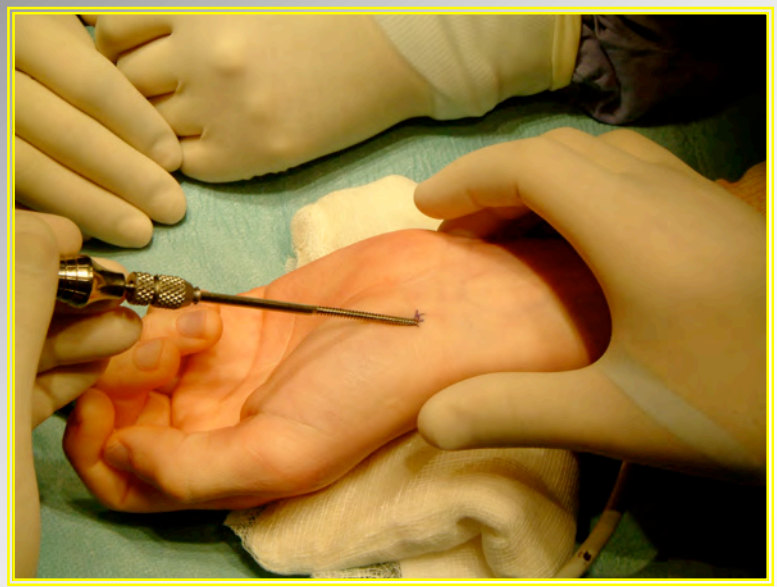
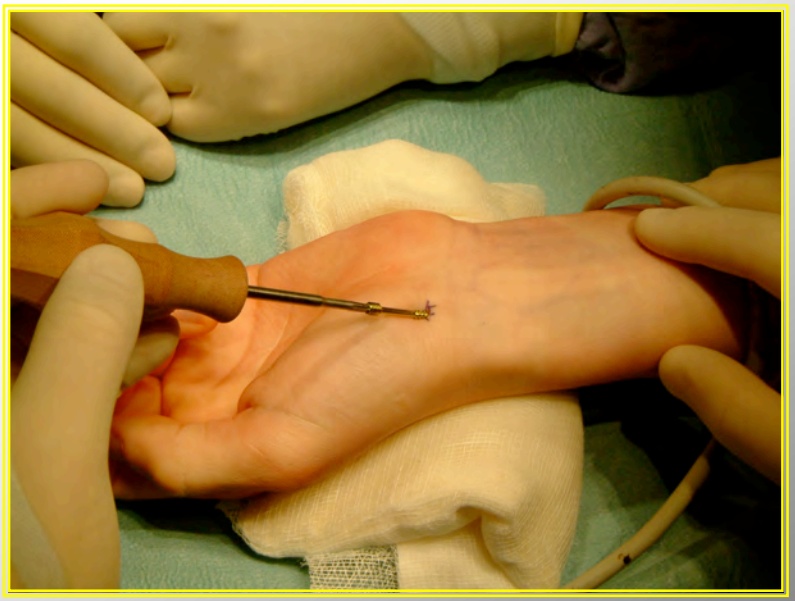
Technique

Drilling, taping and inserting screw.





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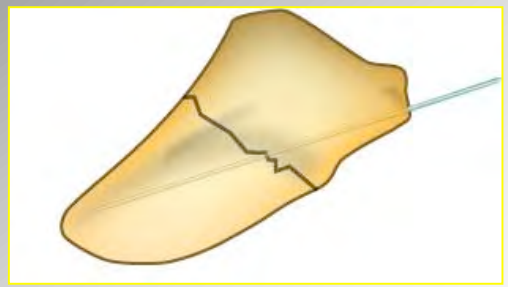
Technique

Placing pin in retrograde position



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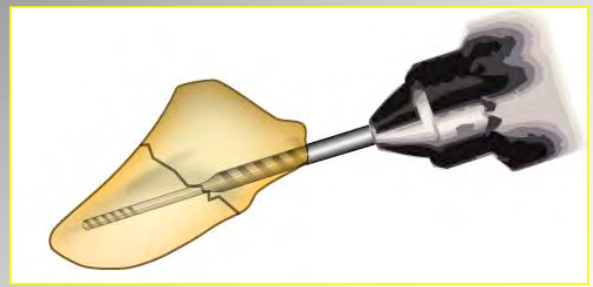
Technique

Drilling with a double size drill: proximal and distal



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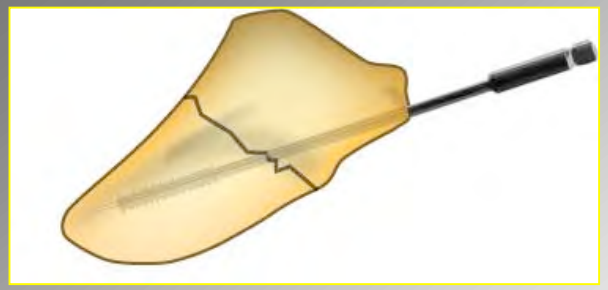
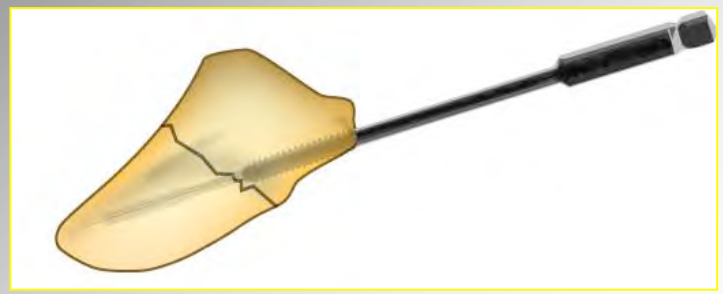
Tapping: proximal then distal





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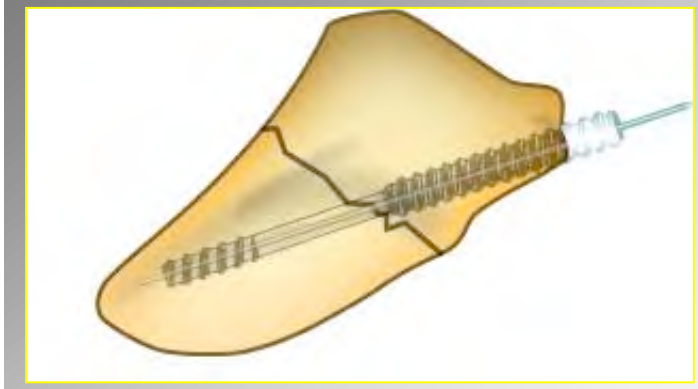
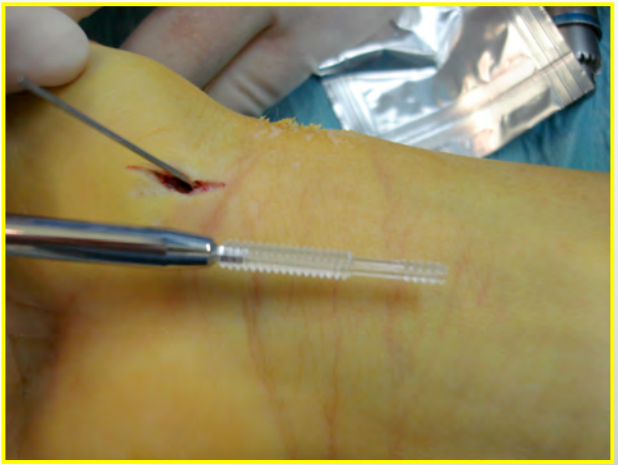
Technique

Absorbable screw one size !





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Technique

Absorbable screw

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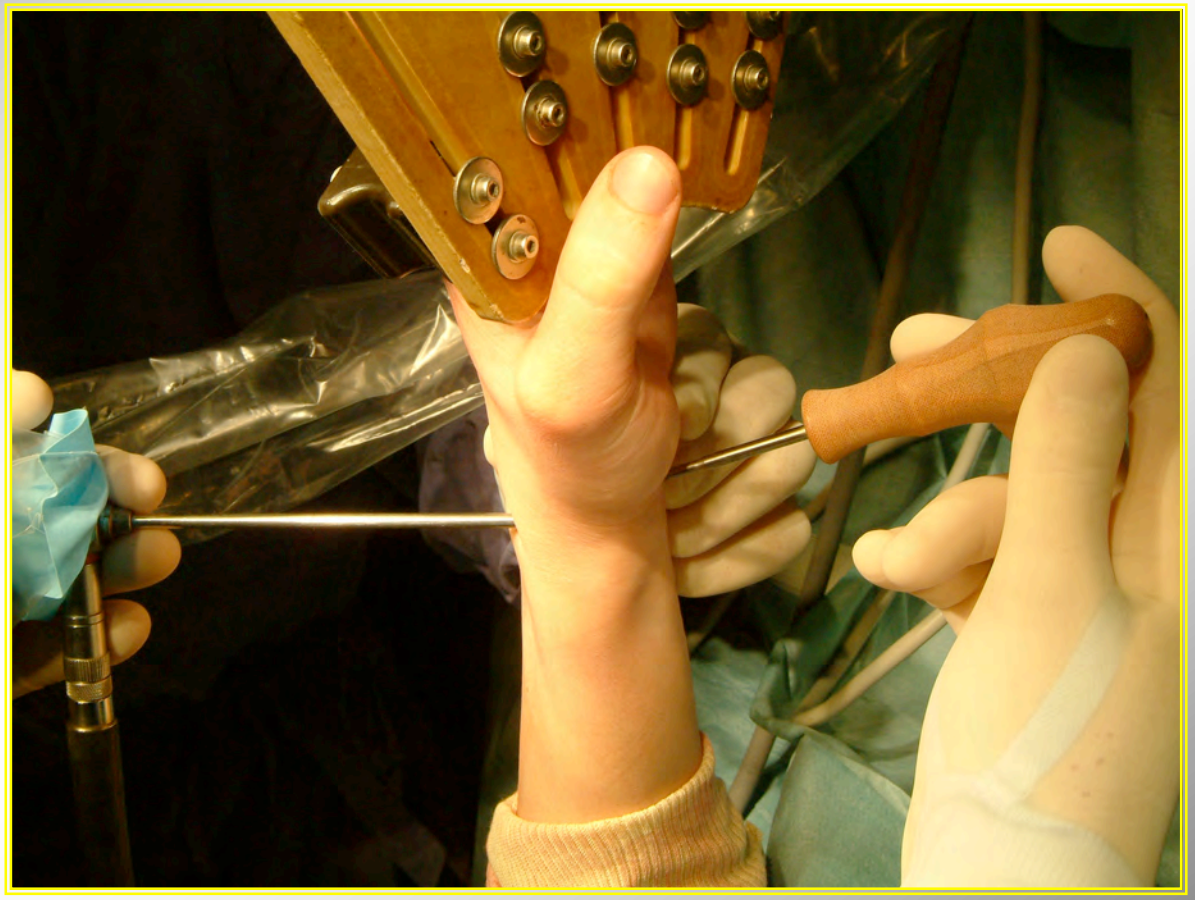
Technique

Arthroscopic midcarpal control for the reduction, and particularly the right position of the screw in radio carpal joint



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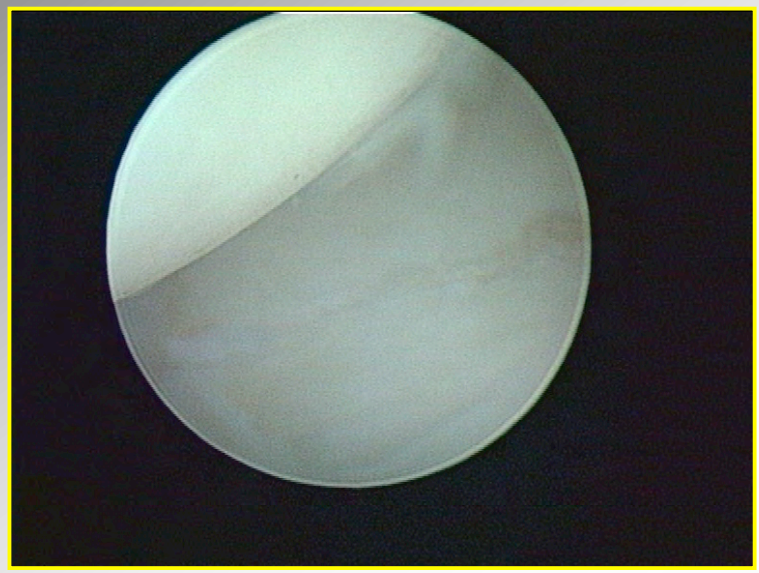
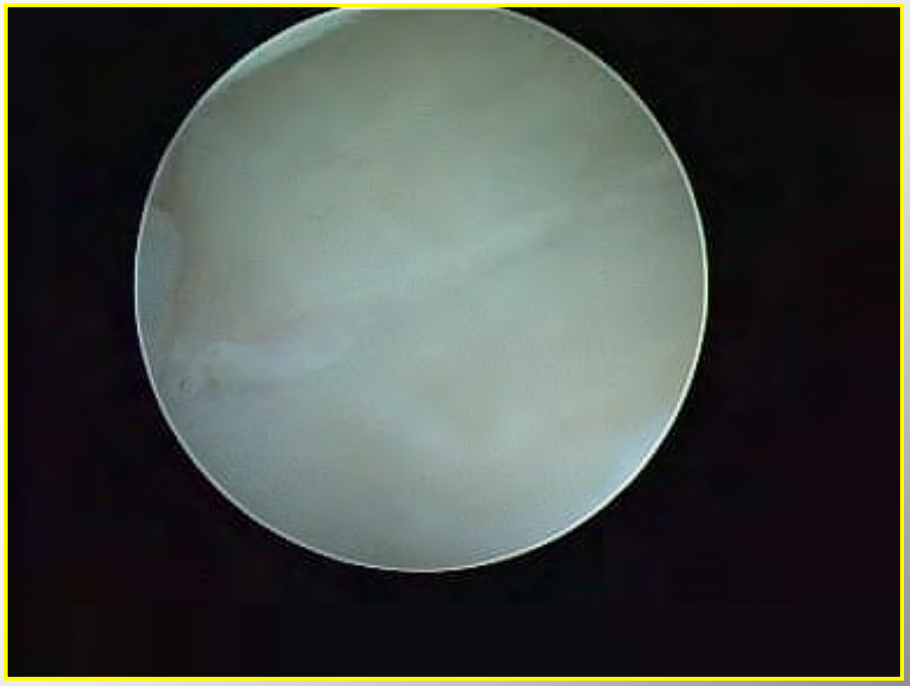
Technique

Arthroscopic midcarpal control for the reduction





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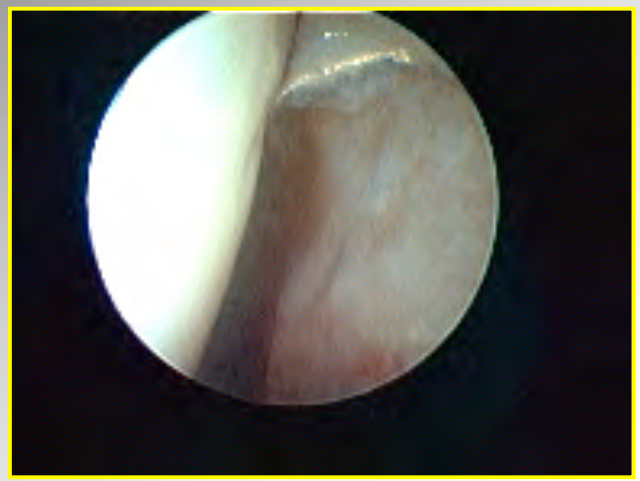
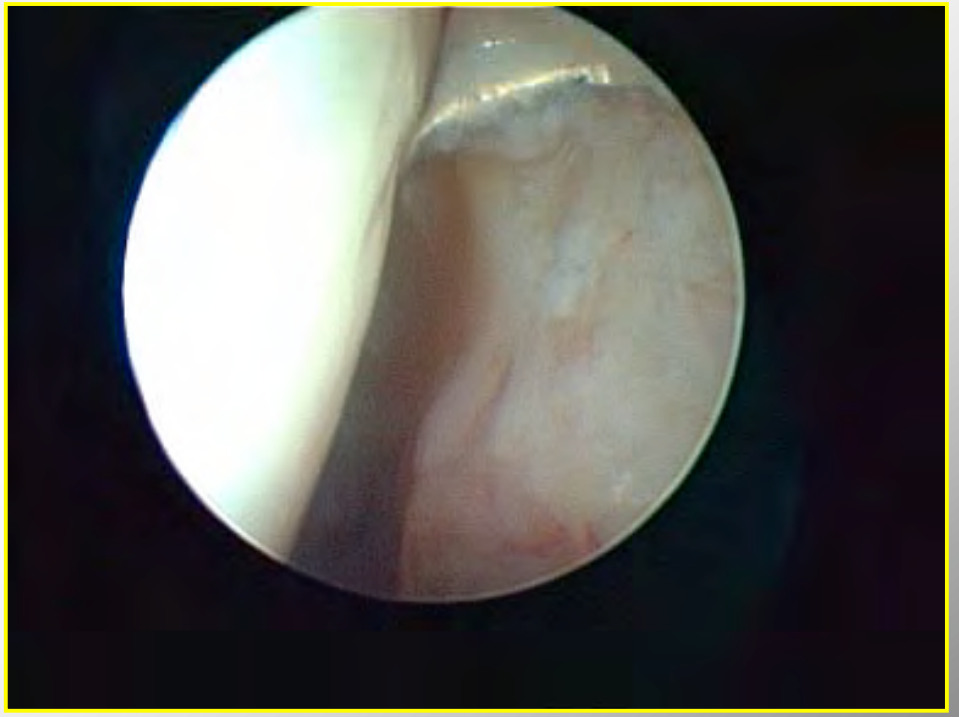
Technique

Right position of the screw in radio carpal joint





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Technique

Postoperative Management

- Joint motion started as soon as possible
- Volar splint between exercises +/-
- Follow-up X-rays at 3, 6 and 12 weeks

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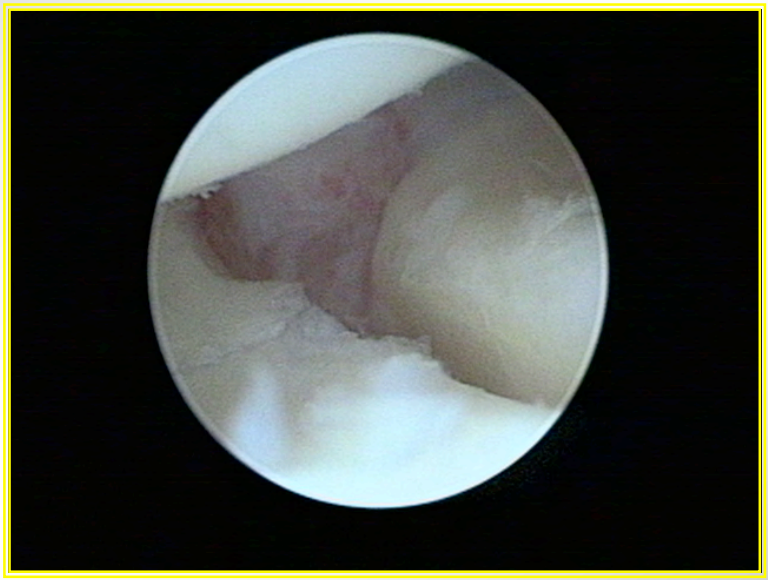
CLINICAL CASE



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Material

38 patients
(22 simple percutaneous osteosynthesis
without any reduction, 8 with absorbable screw)

- 11 women 27 men
- 13 left – 25 right : 31 dominant wrists
- 19 manual workers – 19 sedentary occupation

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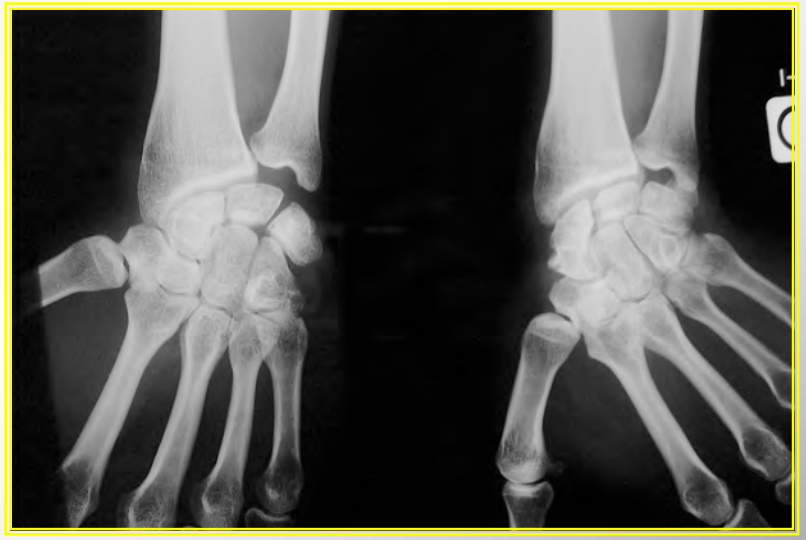
Material
38 patients

- Mean age at surgery : 31.5 y.o.
- Mean delay before surgery : 14 days
- Mean follow-up : 24 months (4-50)
- 4 absorbables screws



2 years of follow-up

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Material
38 patients

- 38 waist fractures
- No proximal pole fracture

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CLINICAL CASE

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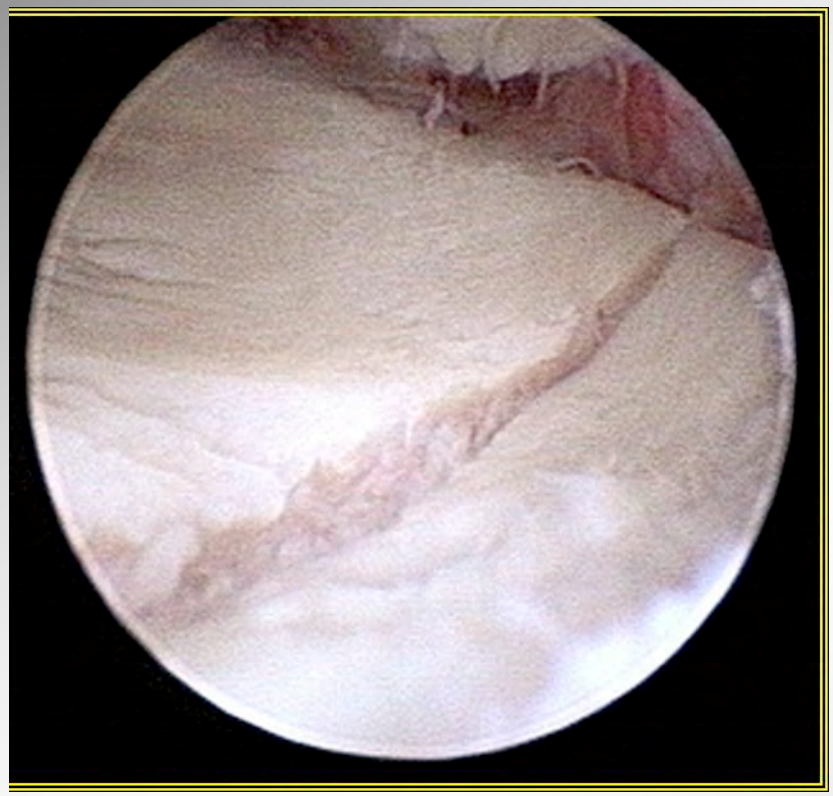
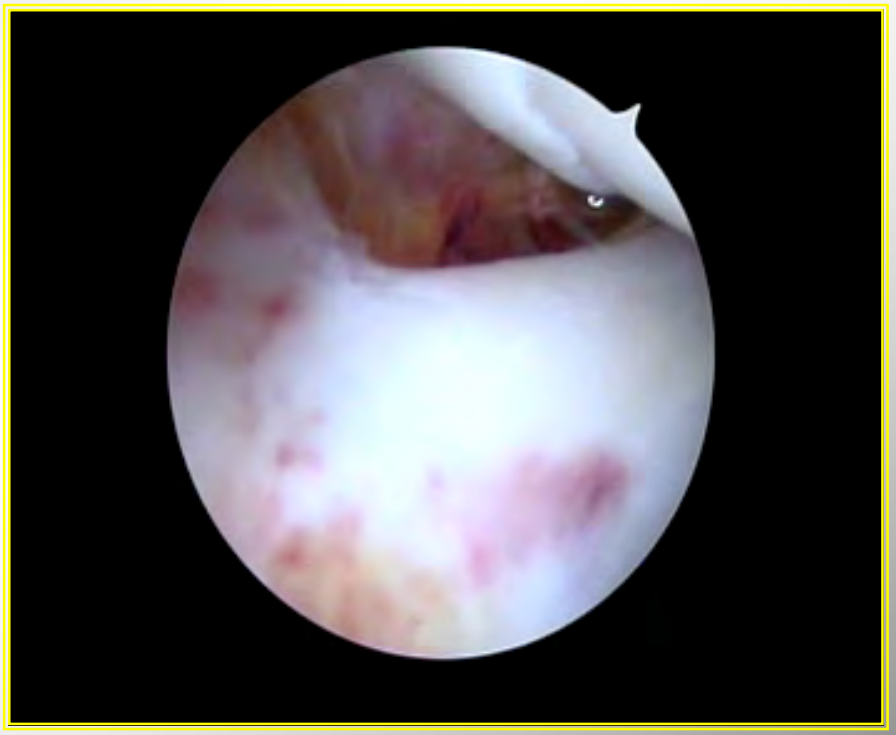
Clinical case





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CLINICAL CASE

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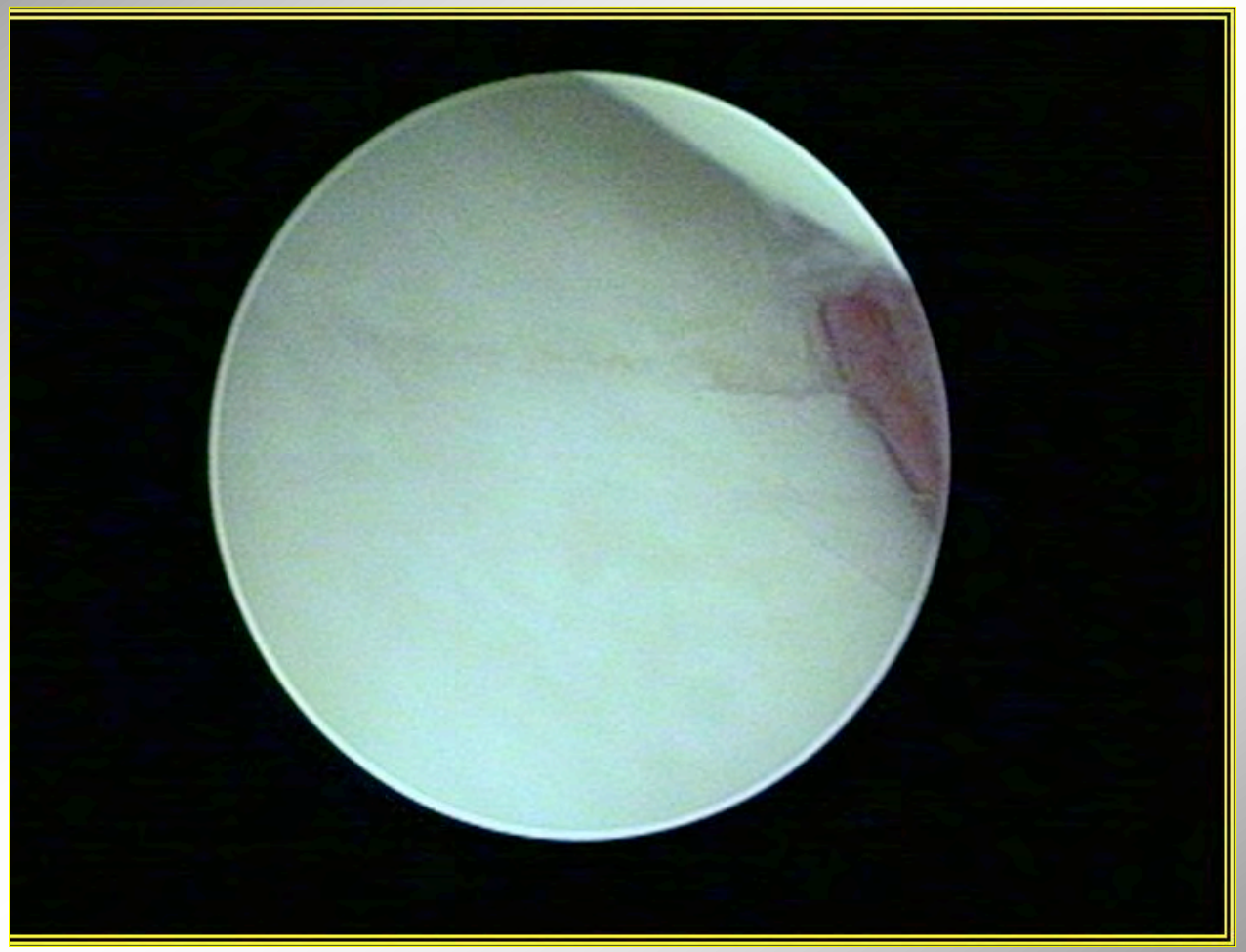
Clinical case



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CLINICAL CASE

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Clinical case

3 months of follow-up

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Results union

Mean time to union : 50 days (45-72d)

Range of motion

- Increase in mean flexion : 46° ➡ 69°
- Increase in mean extension : 54° ➡ 71°

Grip strength

- 52% ➡ 96% of controlateral wrist

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Clinical case

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Clinical case

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Clinical case

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Complications

- Südeck's dystrophy : 0
- Nonunion : 0
- 3 screws removal

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Results

Mayo wrist score

Excellent	30
Good	8
Fair	0
Poor	0
	38

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Subjective results

- Satisfied without reservations : 35 patients
- Satisfied with some reservations : 3 patients
- Not satisfied : 0 patients

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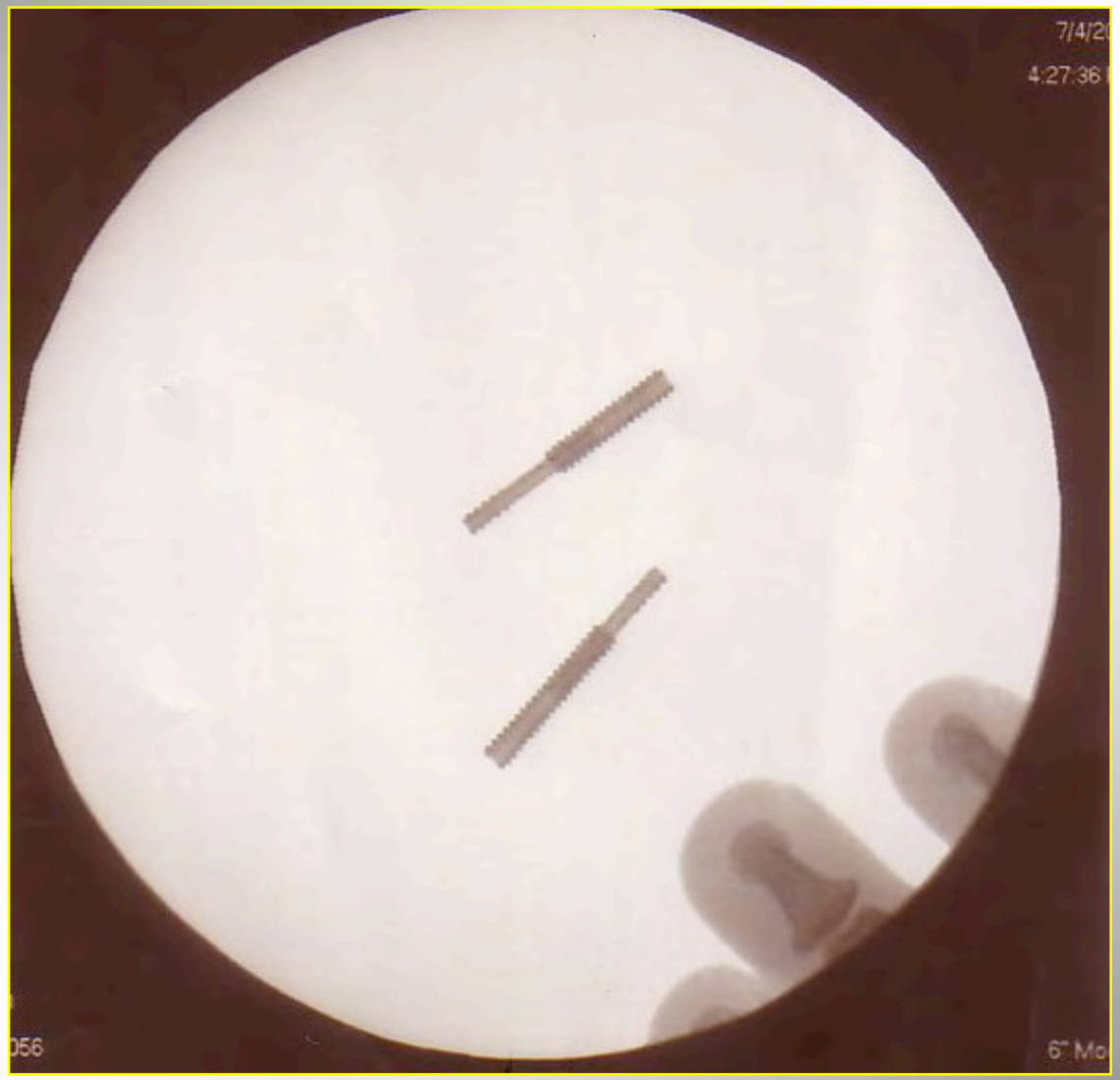
New absorbable screw



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Conclusion

100 % union in 7 weeks

100 % satisfied patients

100 % excellent or good results

Provided that the operation has been carried out fast and coorectly, complications are few.

The use of cannulated screw with arthroscopic assistance and a short distal approach give good results and obtain union in short time.

Absorbable screw avoid the screw removal

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