Scaphoid Fractures

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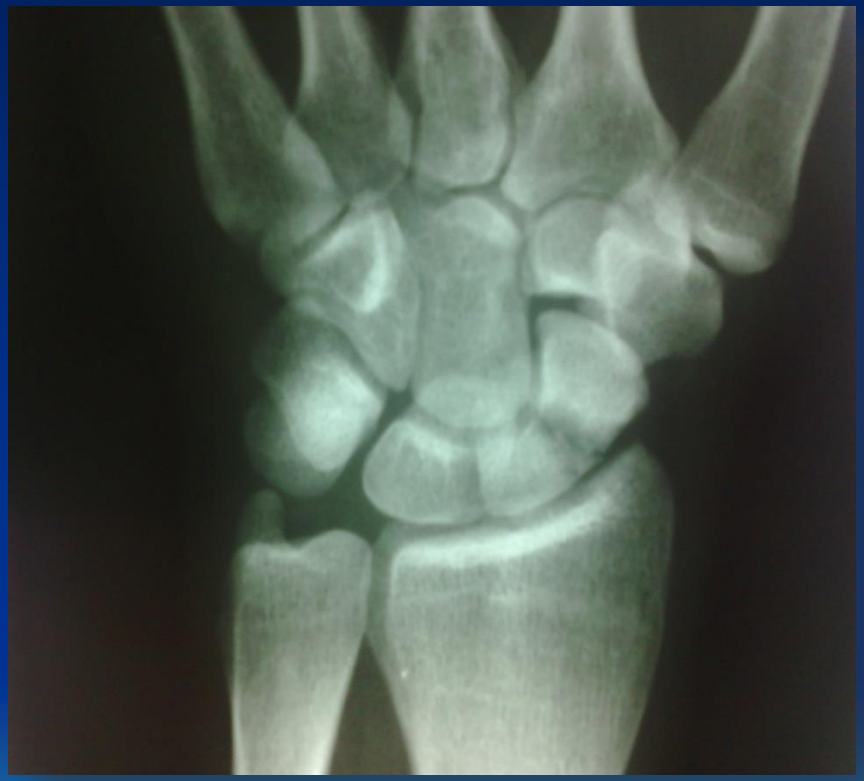
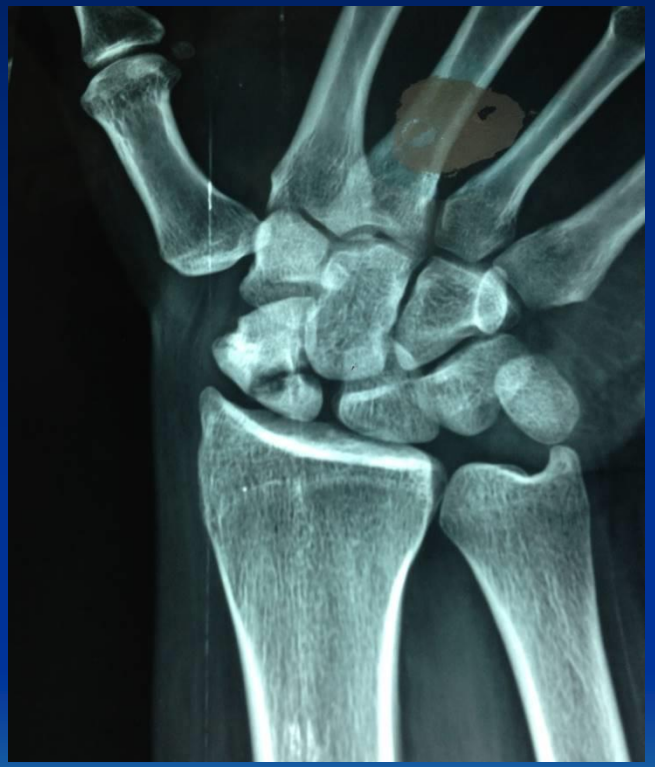
Scaphoid Fractures





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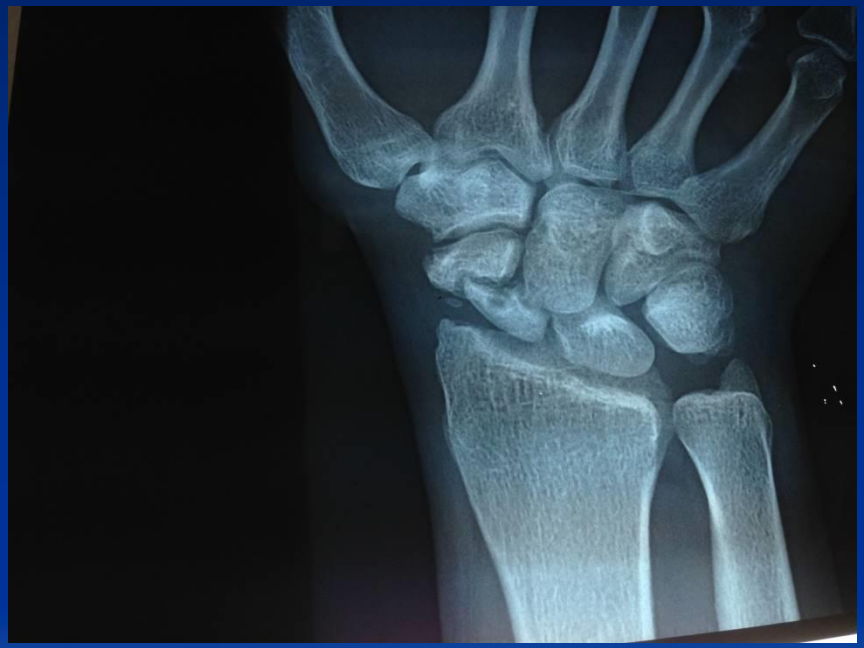

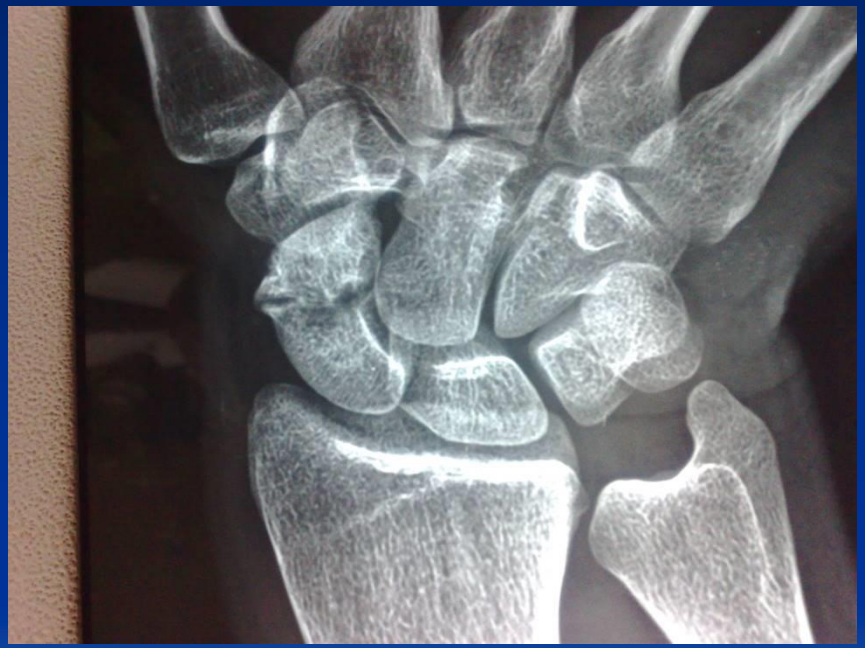

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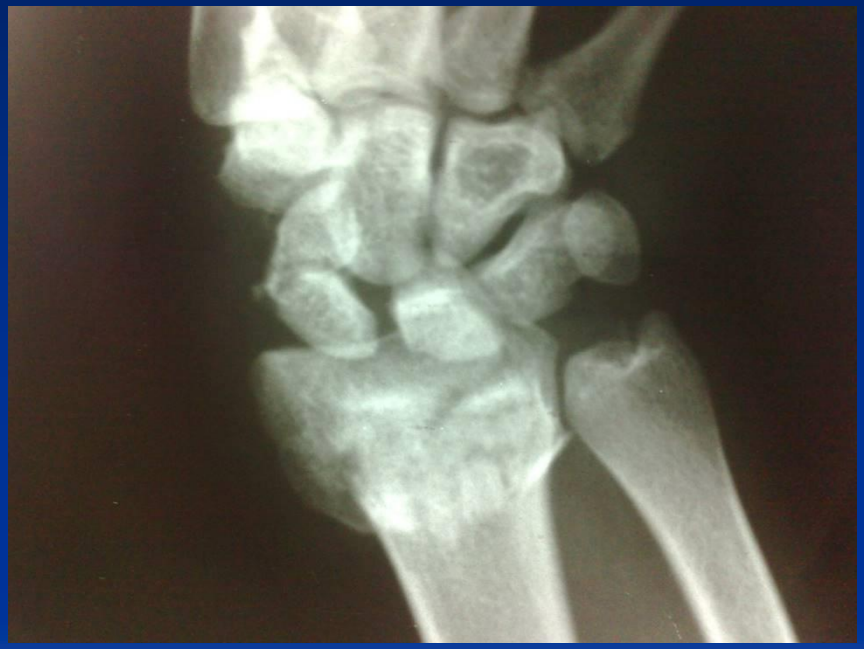
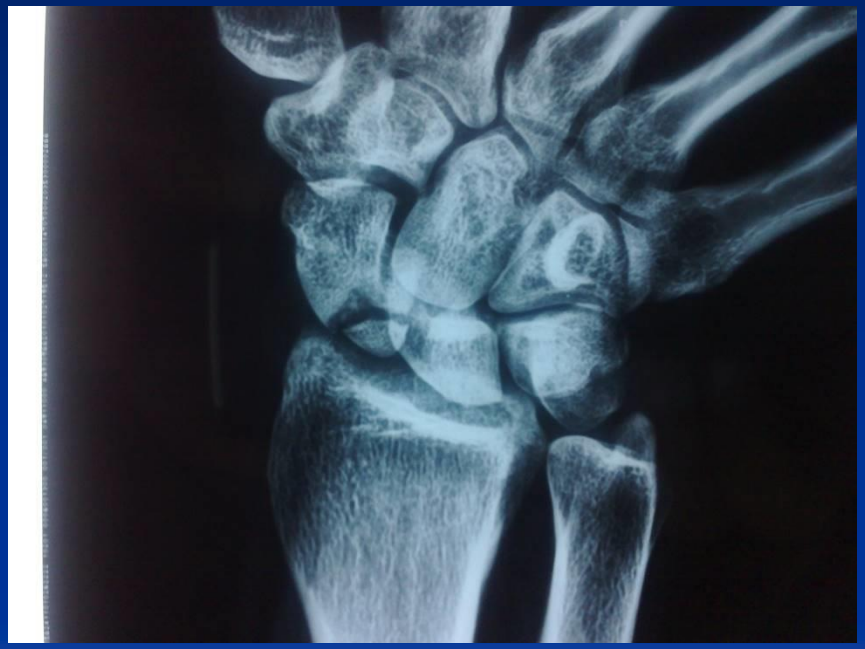




Incidence

- 5-10% of scaphoid fractures treated in a plaster cast, Gelberman et al.
- Herbert and Fisher reported an incidence in the order of 50%.
- Non union will also occur in an unknown number of unrecognized scaphoid fractures.

Causes of non union

Certain factors appear to predispose to non union:

1- Anatomical Factors

- The most important factor is the blood supply.
- Displaced fracture fragment.
- Soft tissue interposition can prevent union of acute fractures of the scaphoid by interrupting the blood supply.
- Synovial fluid dynamics predisposes to non union as it interferes with the formation of callus.

2- Factors in the management

- Failure of diagnosis of acute fracture.

- Inadequate immobilization.

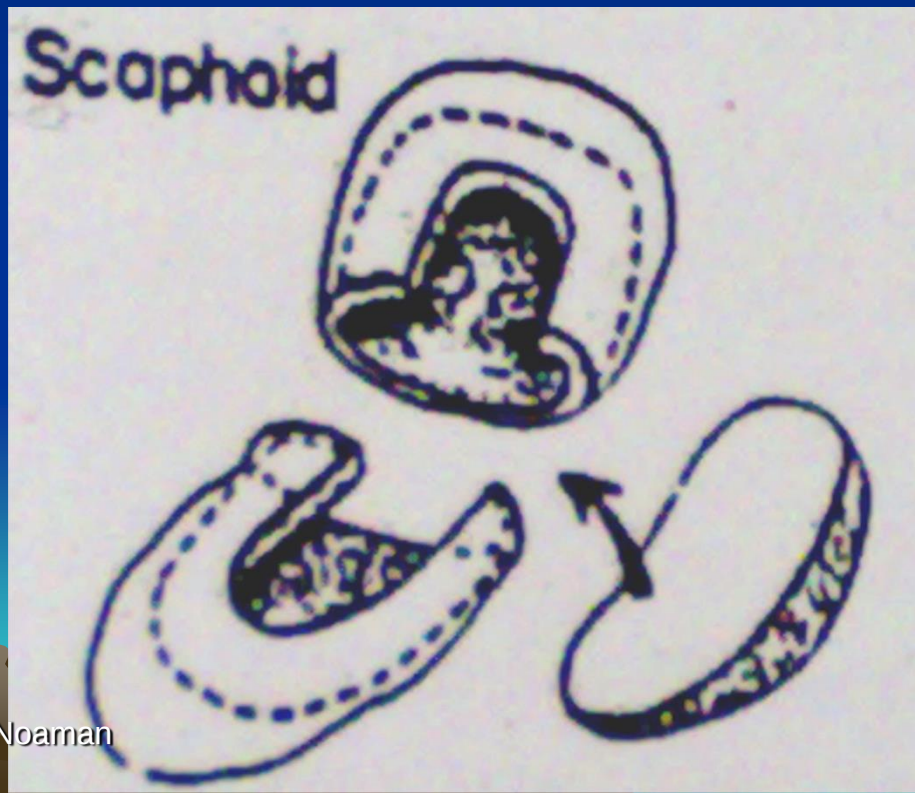
Complications

- Weakness of hand grip.
- Limitation of wrist movement (flexion, extension, ulnar and radial deviation).
- DISI.
- Degenerative osteoarthritis of the wrist joint.

Treatment

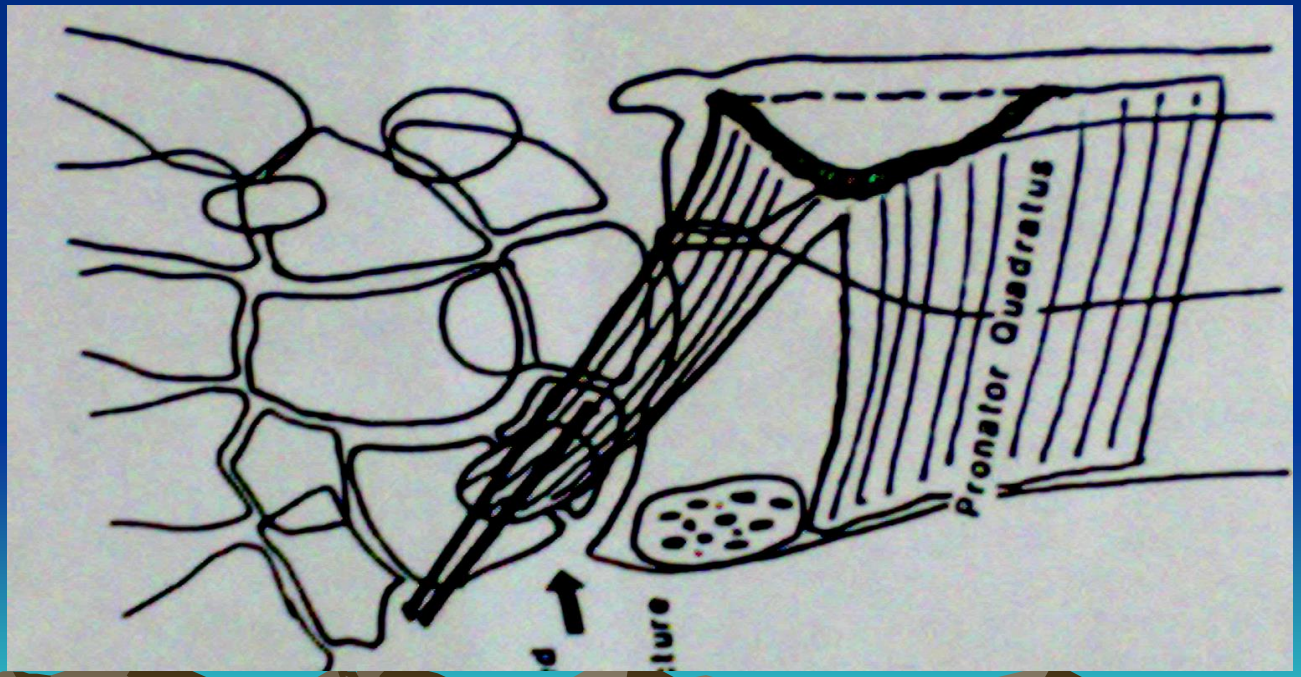
The ideal treatment of non-union of the scaphoid remains unsolved and controversial.

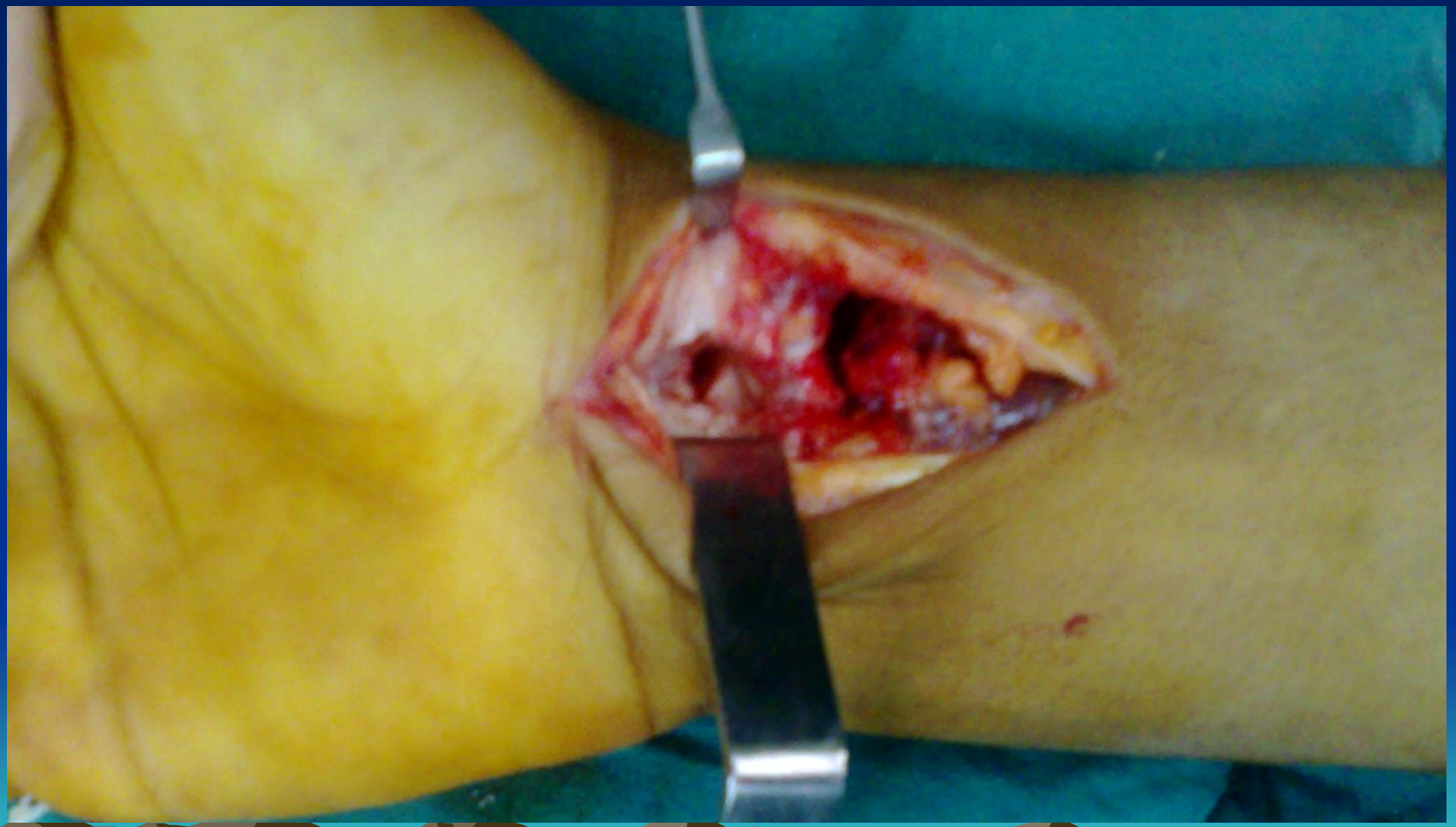
- Bone graft with or without internal fixation is the standard treatment for symptomatic scaphoid non-union without osteoarthritis. Cancellous bone grafting first described by Matti and Modified by Russe is the most common surgical treatment.



VBG

Pronator quadratus pedicle bone graft

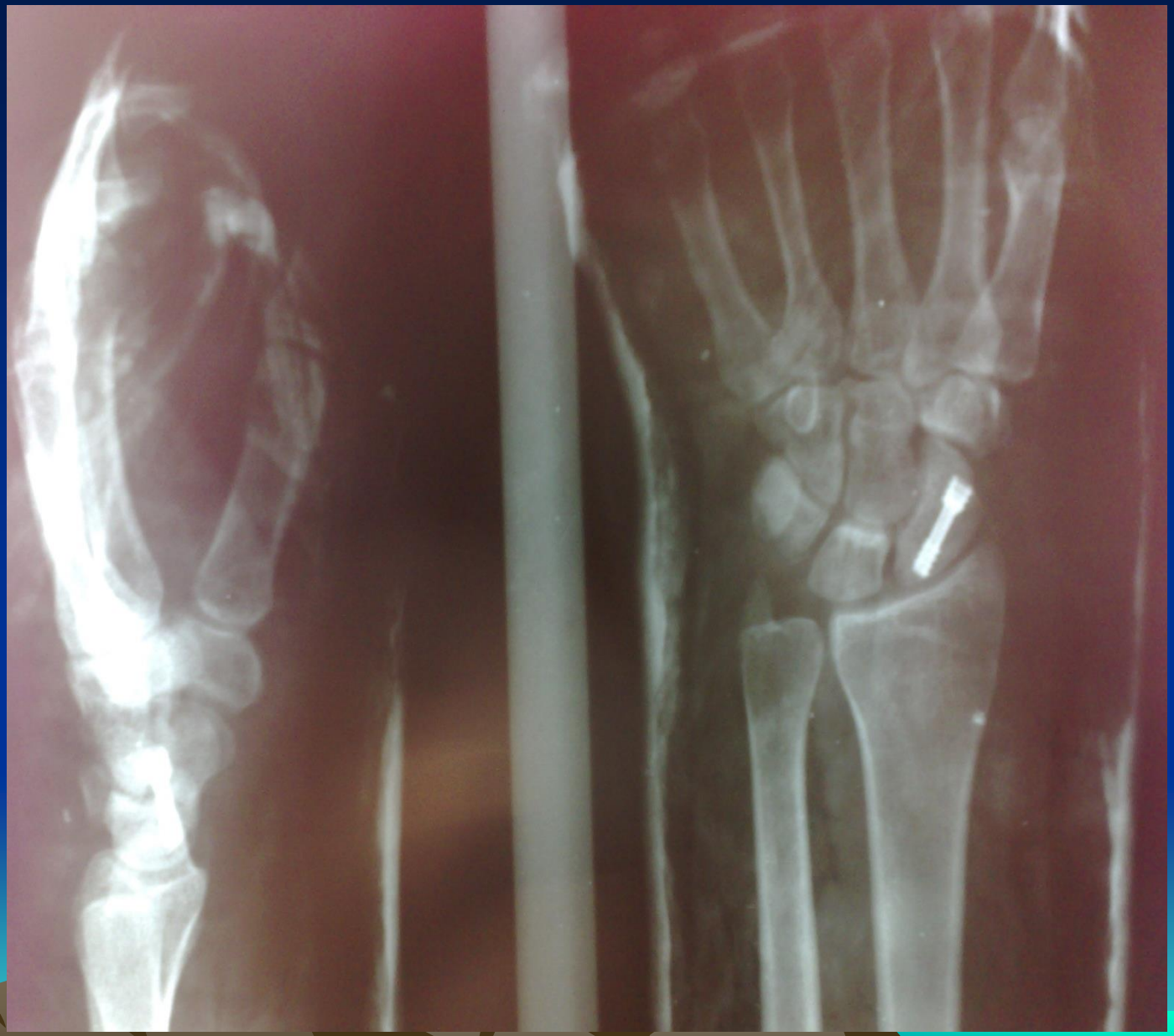


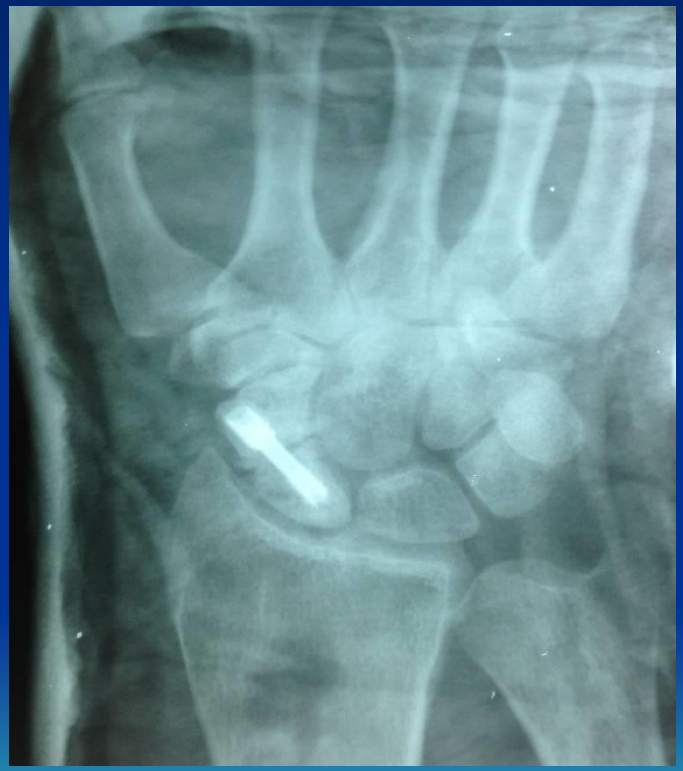


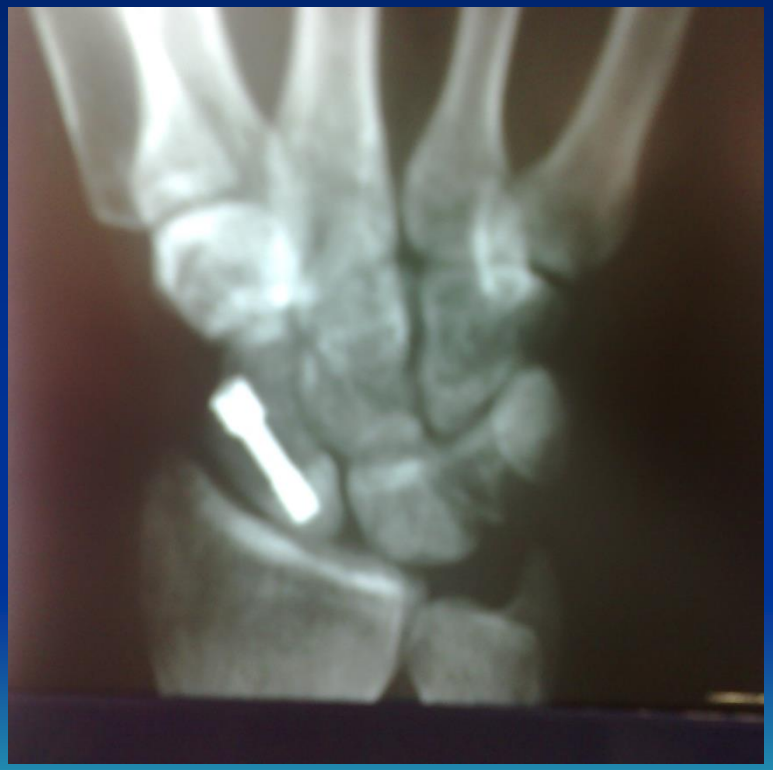
- Mc Laughlin (1954), is the first to recommend open reduction and screw fixation of the fracture scaphoid.

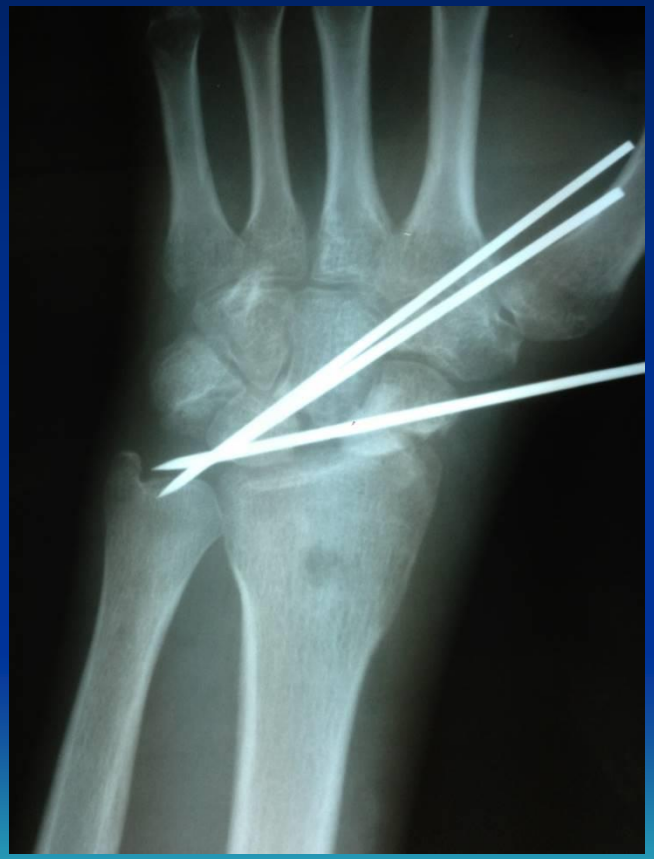
- Fernandez described a method of fixation using a volar wedge bone graft secured with Kirschner (K) wires in 1984 and in 1990 he reported his results using the 2-7 mm AO Lag screw injury.

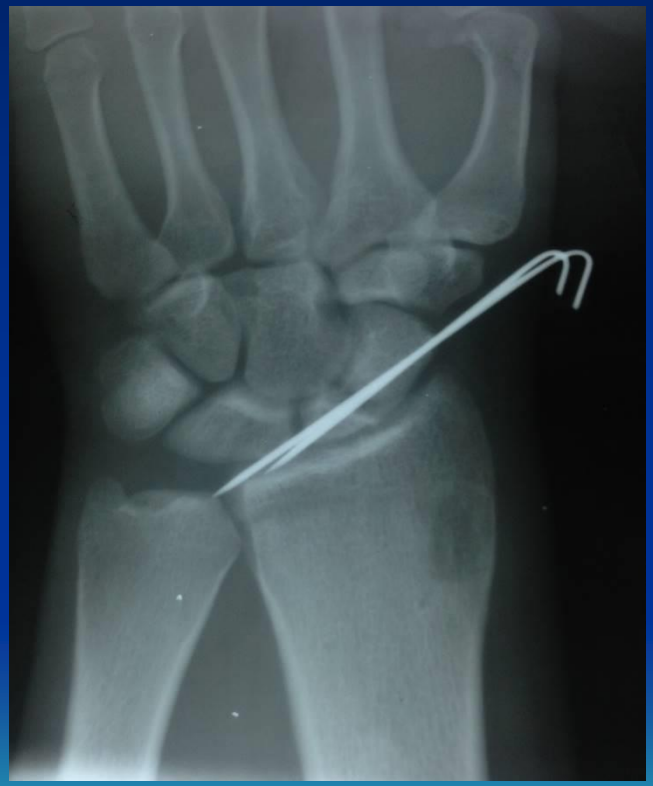
- Herbert and Fisher described the Herbert screw fixation in 1984.









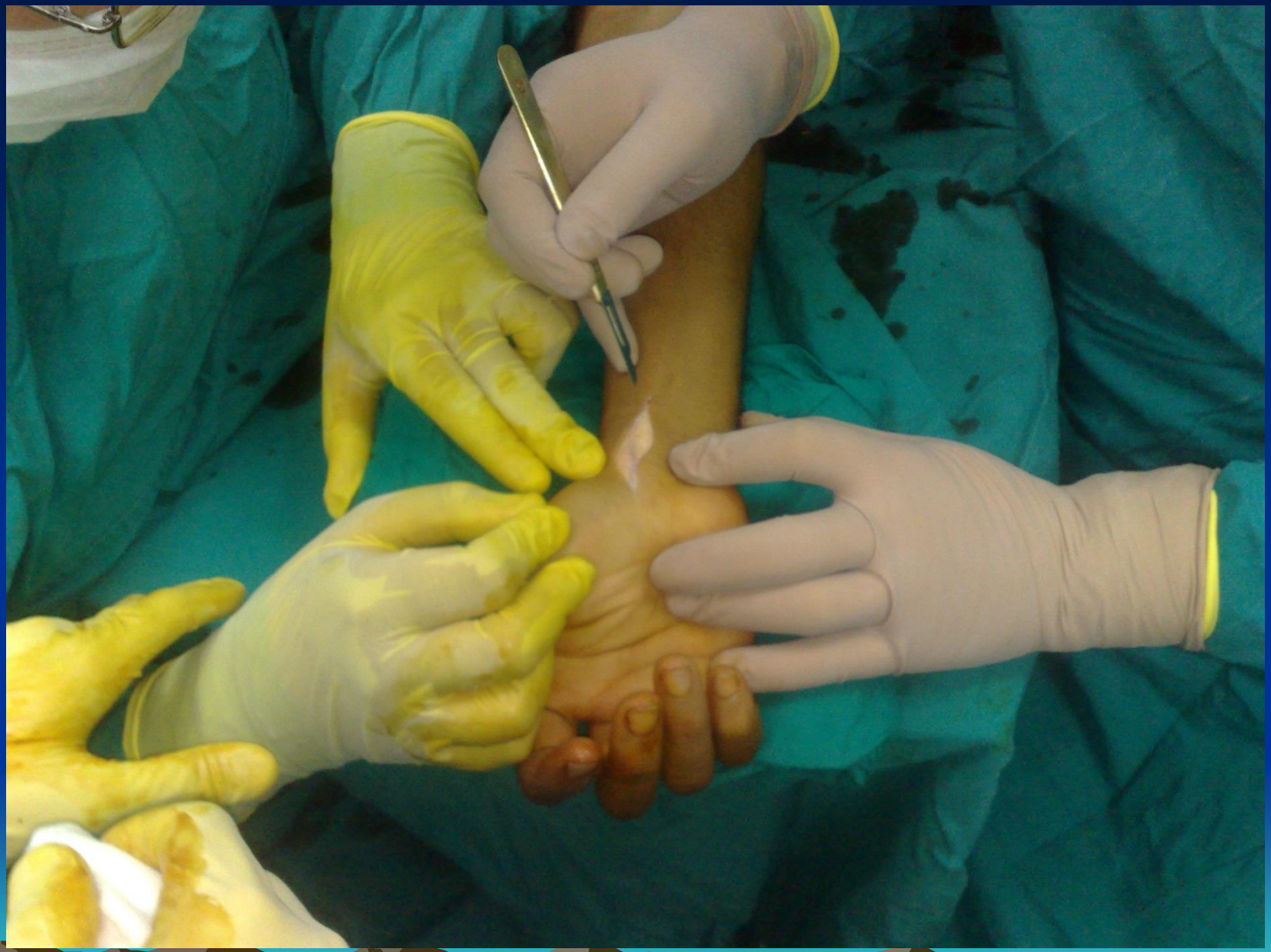


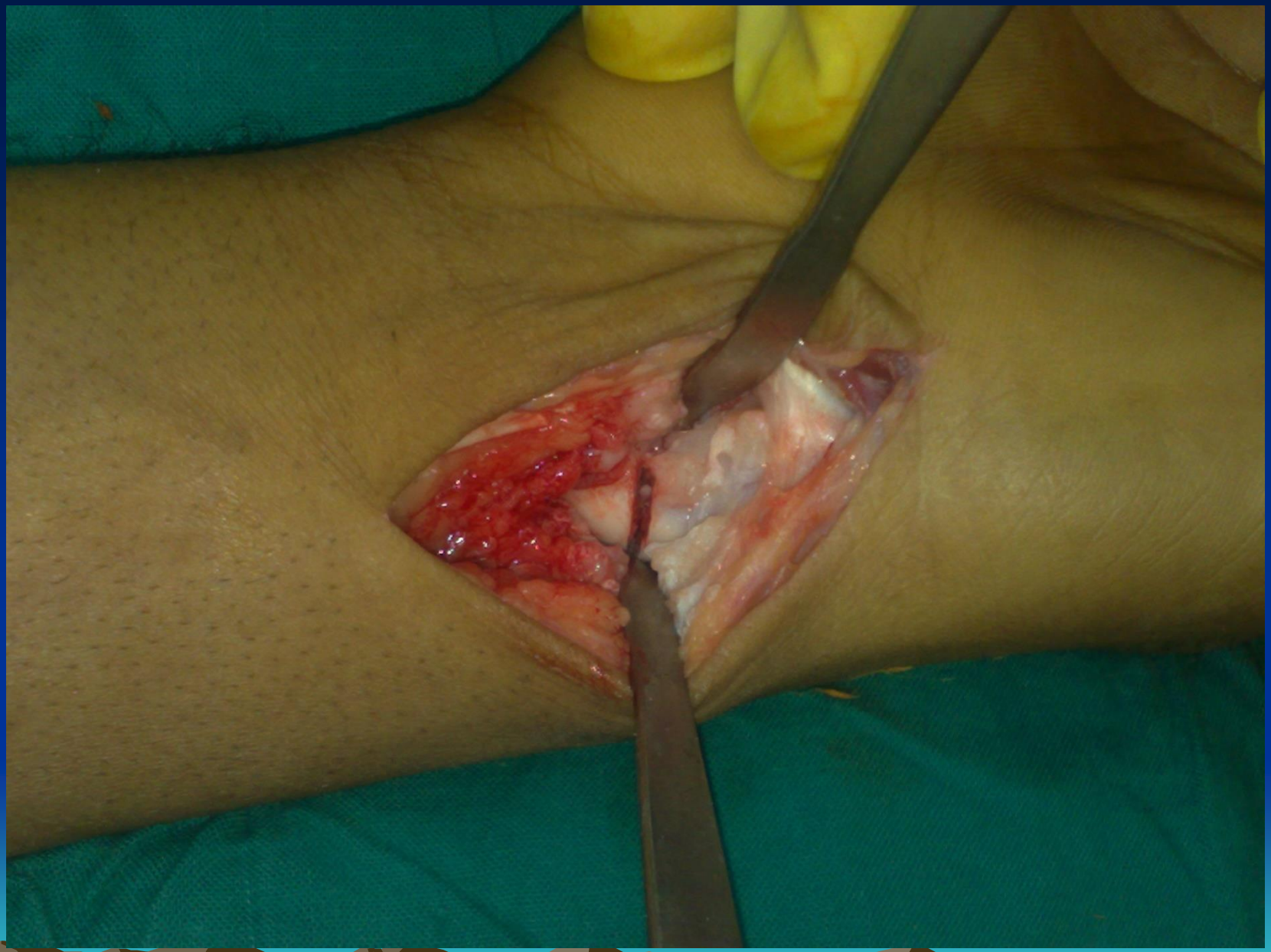
Patients and Methods

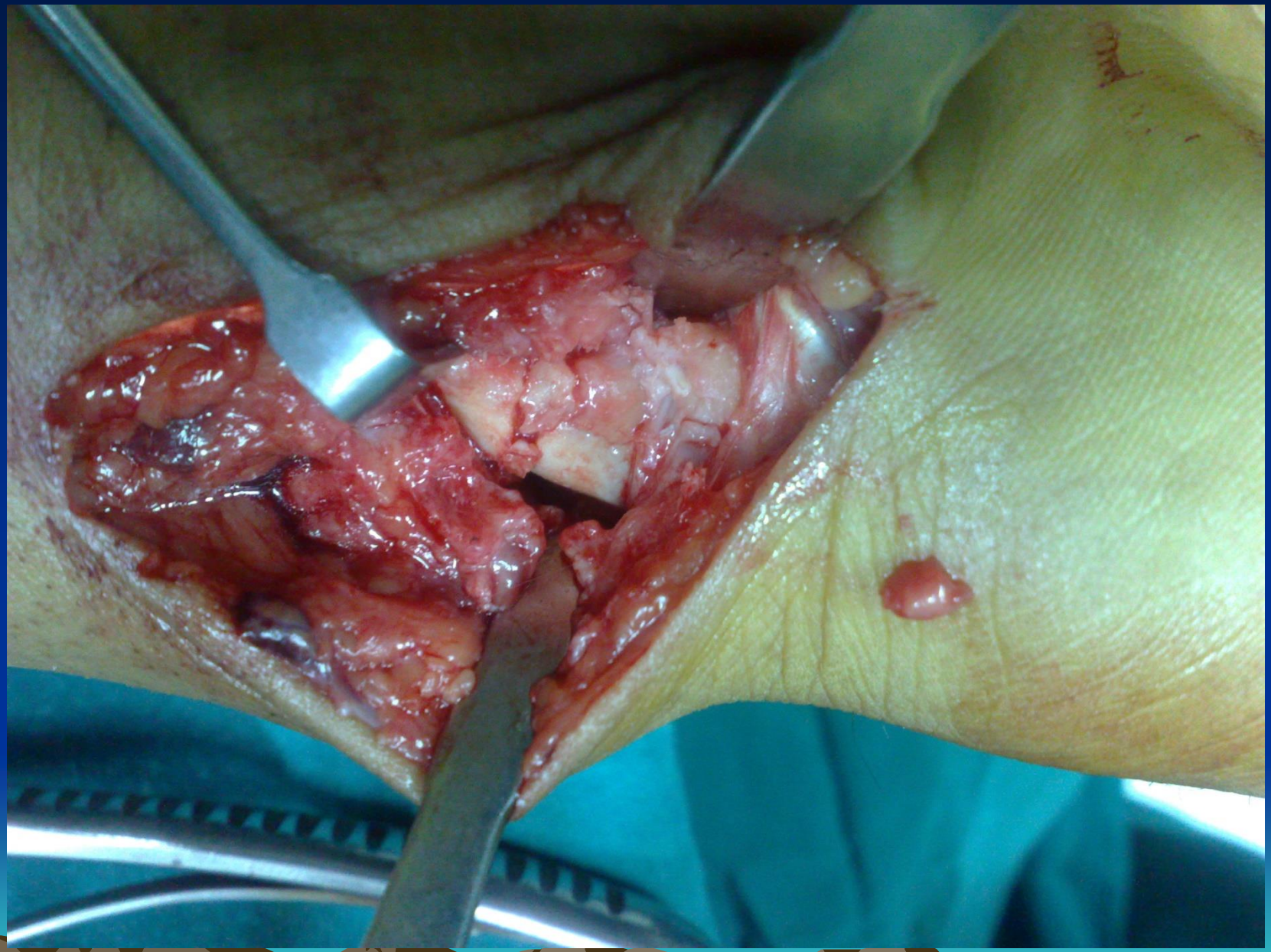
This study included 36 cases of non union scaphoid fracture treated by curettage, bone graft and Herbert screw fixation from April 2001 to April 2012. Twenty nine were male and 7 were female. The right hand was the dominant side. The average time of non union was 38 month. Twenty five cases had no previous treatment (missdiagnosis), and 11 cases were treated by cast.

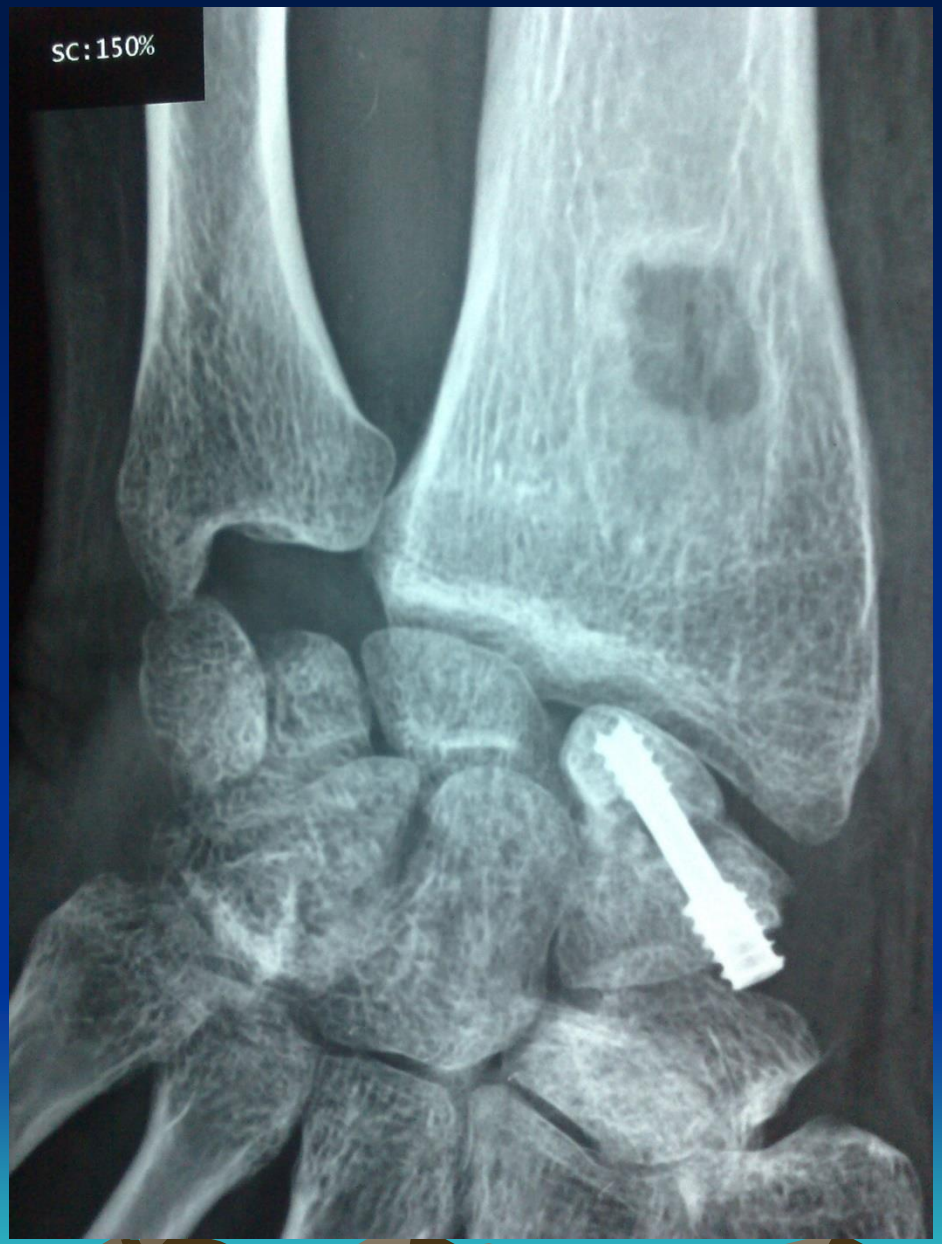
X-ray, C-T and in some cases MRI were the main diagnostic tools. Preoperative ROM for the wrist joint was measured in the all cases. There was limitation om wrist ROM in the all cases as comparable to the normal wrist specially the palmarflexion.

How to do





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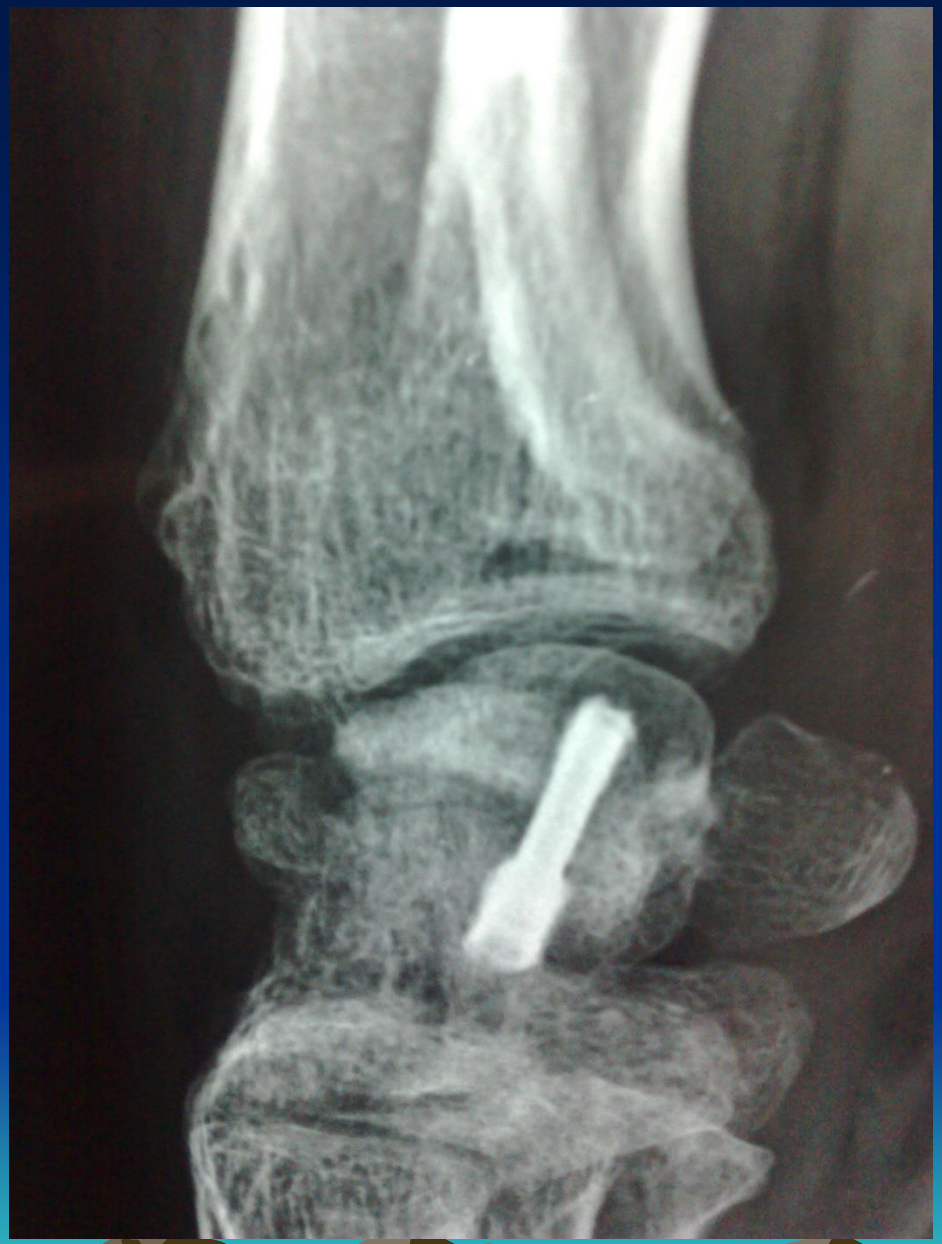
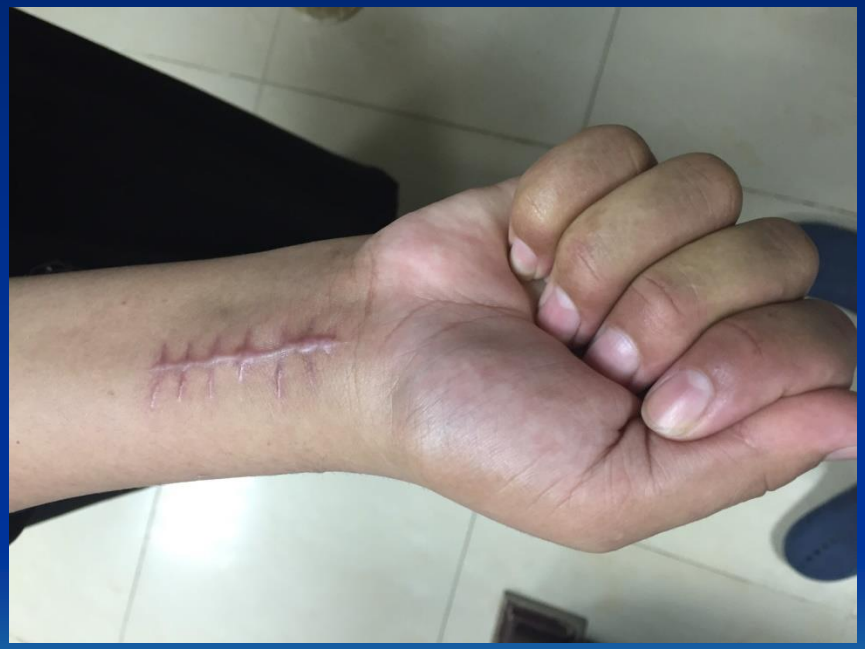


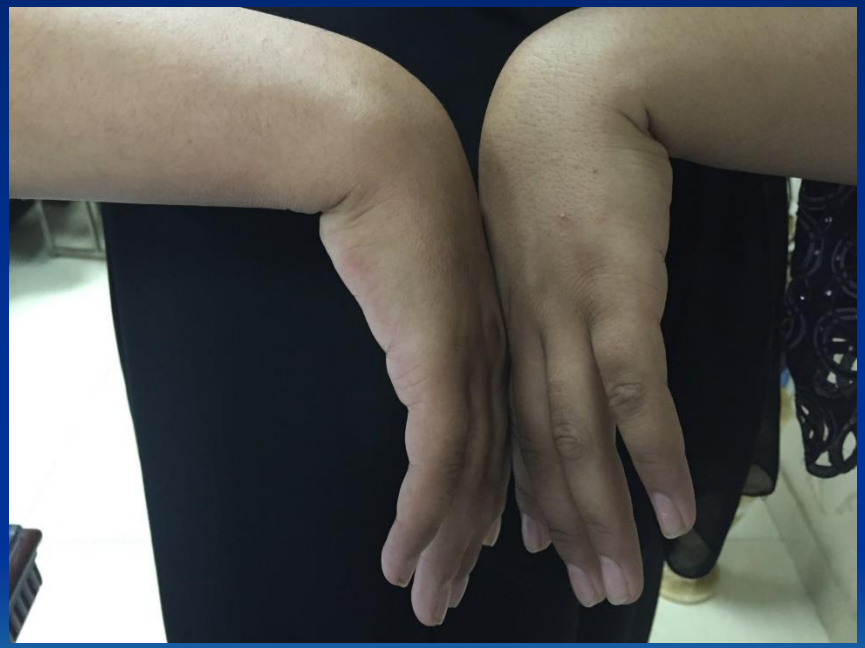
Results

All cases had comlete union with average time 16 weeks post operative. The patients had regained normal ROM as compared to the normal side.

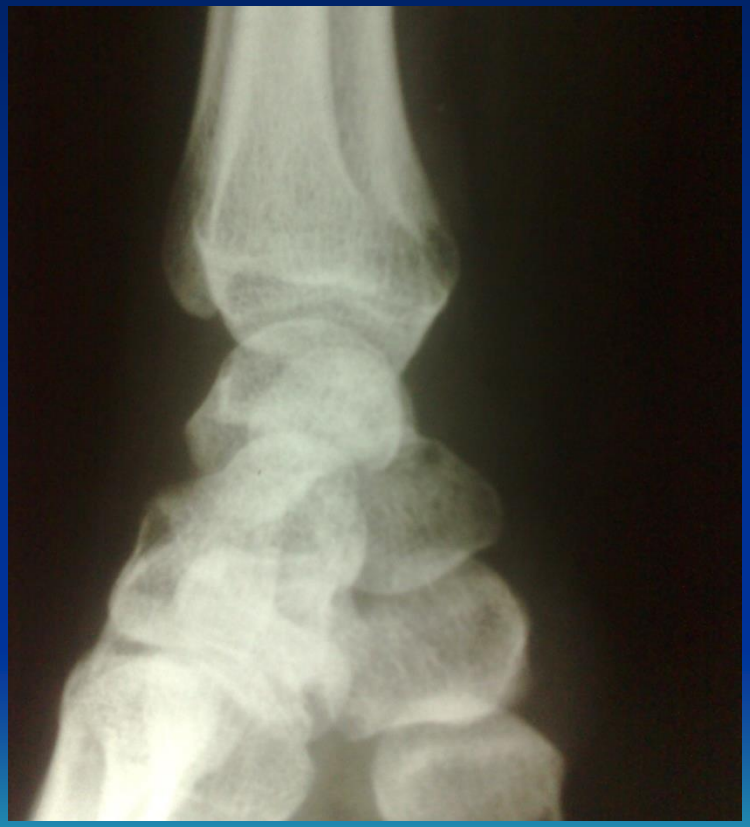
Case Presentation

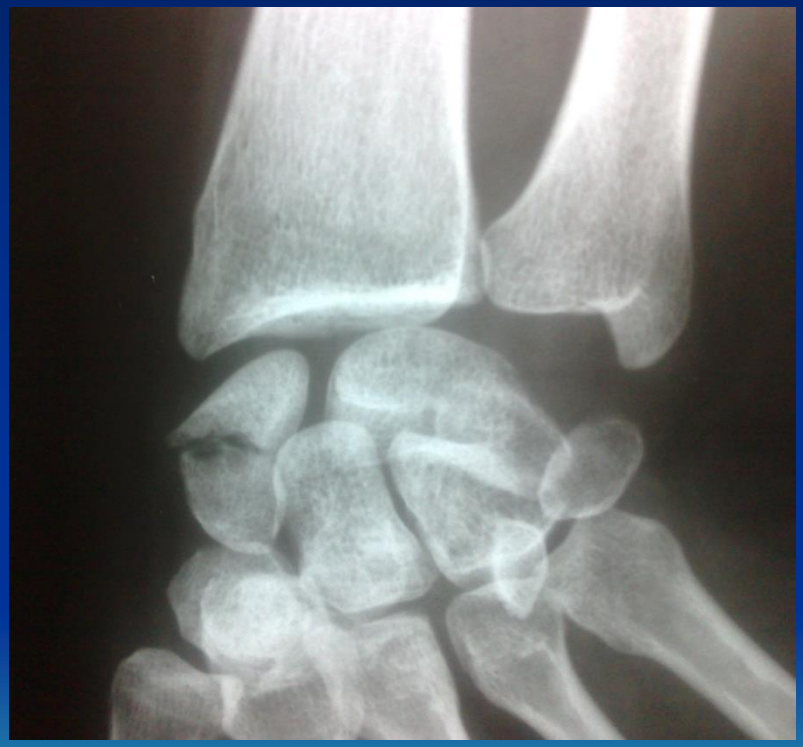
Case I

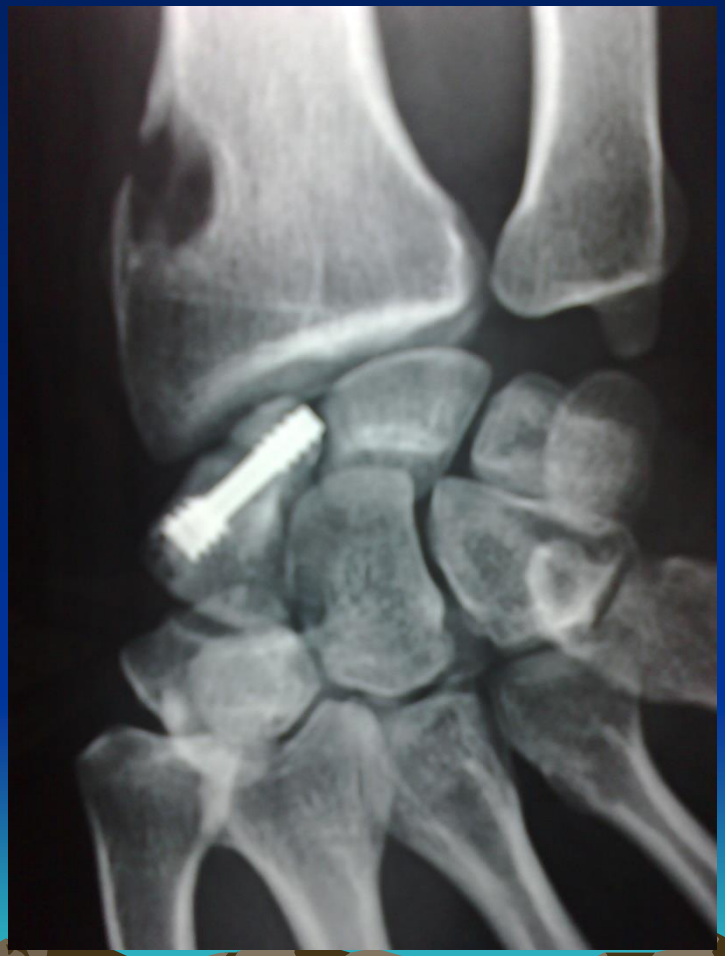


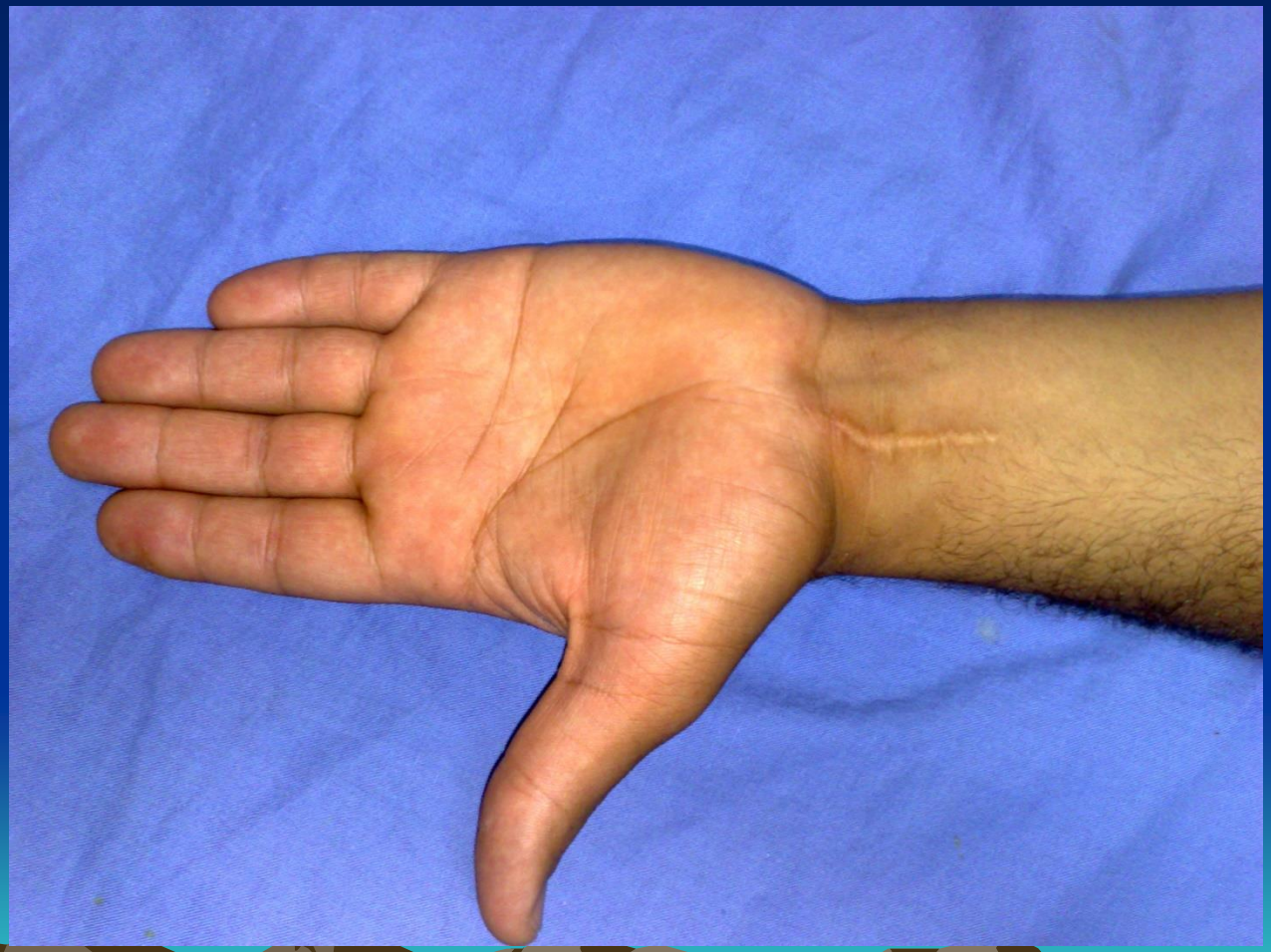


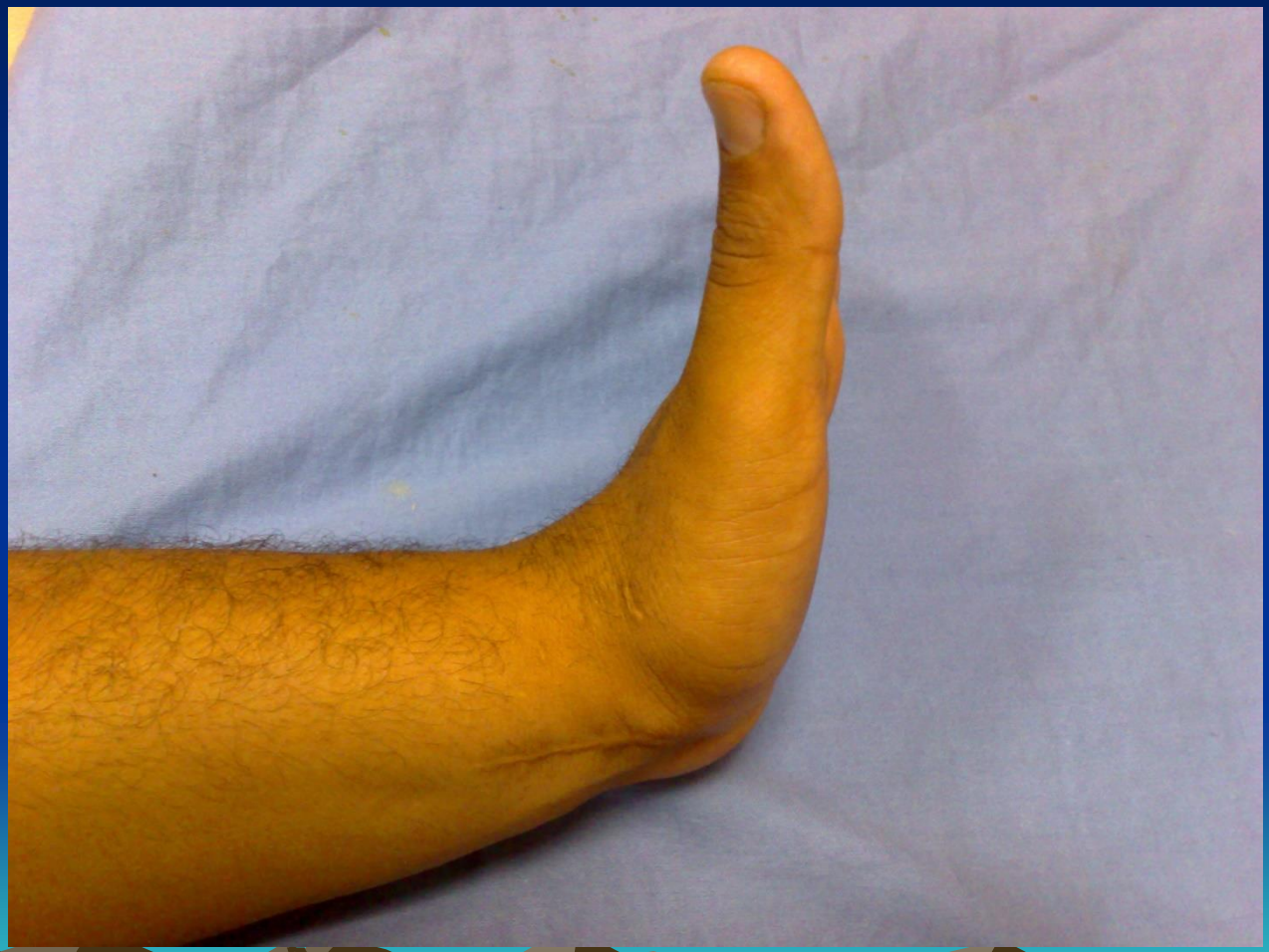
Case II

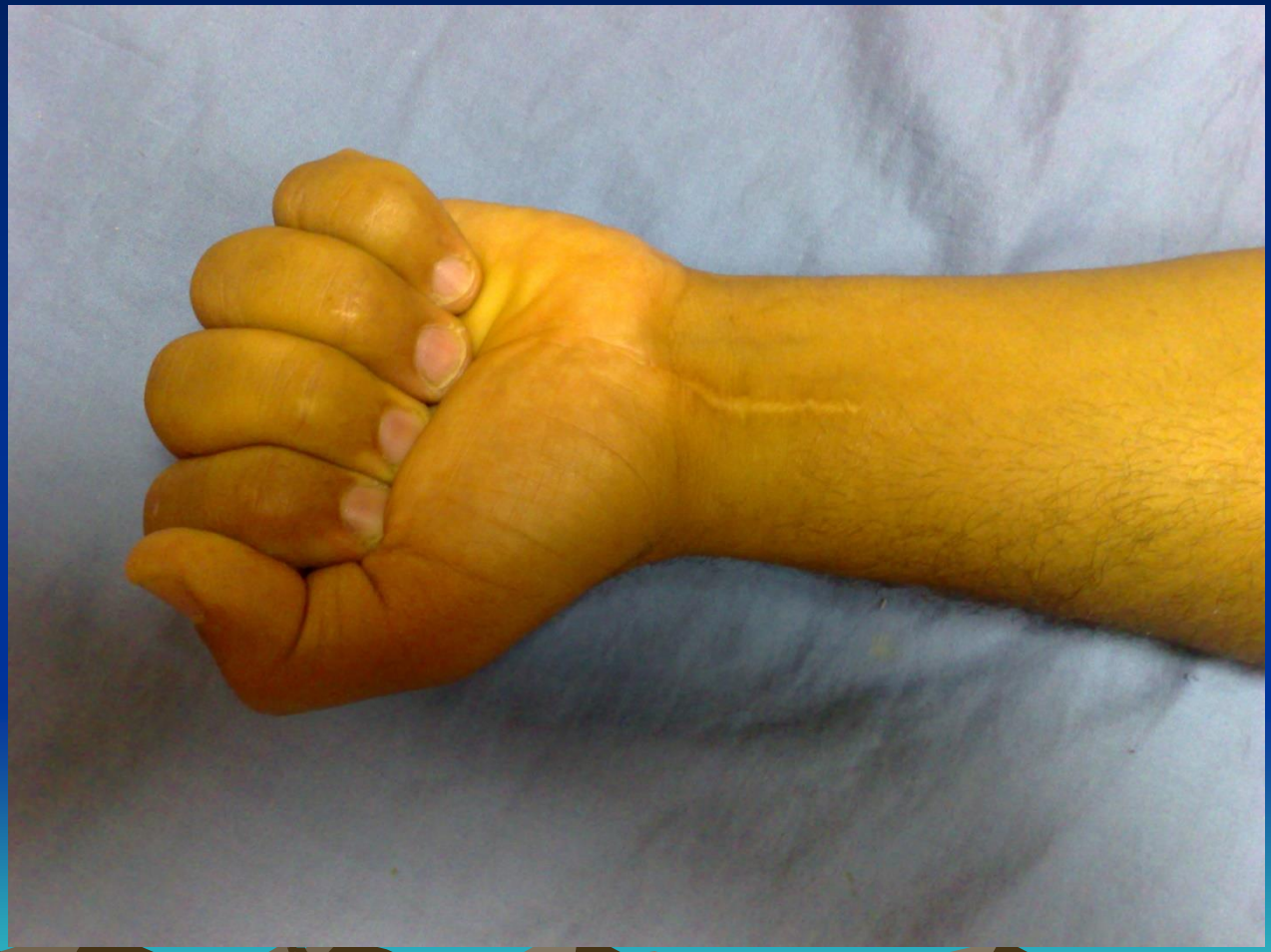


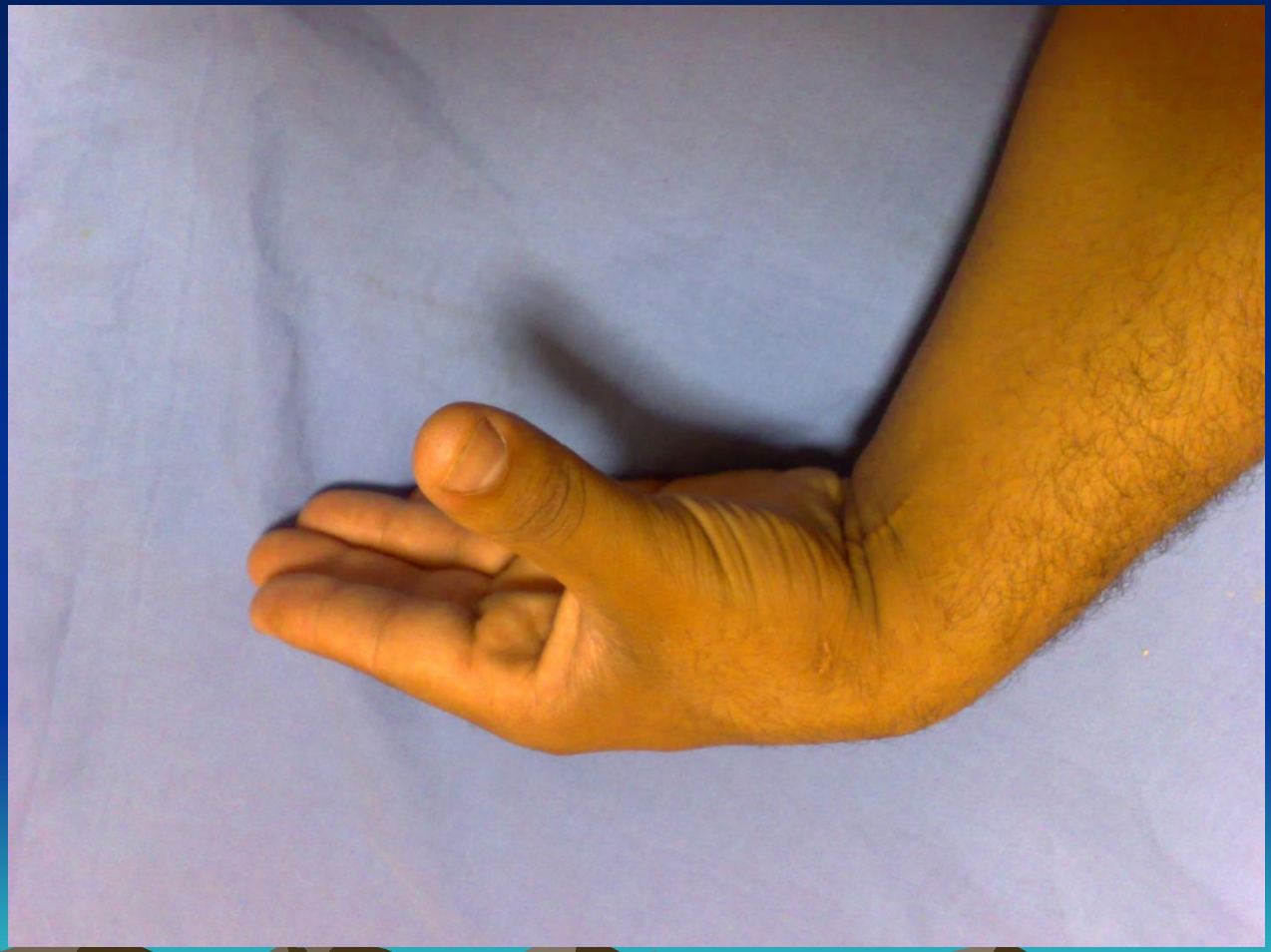












Thank you