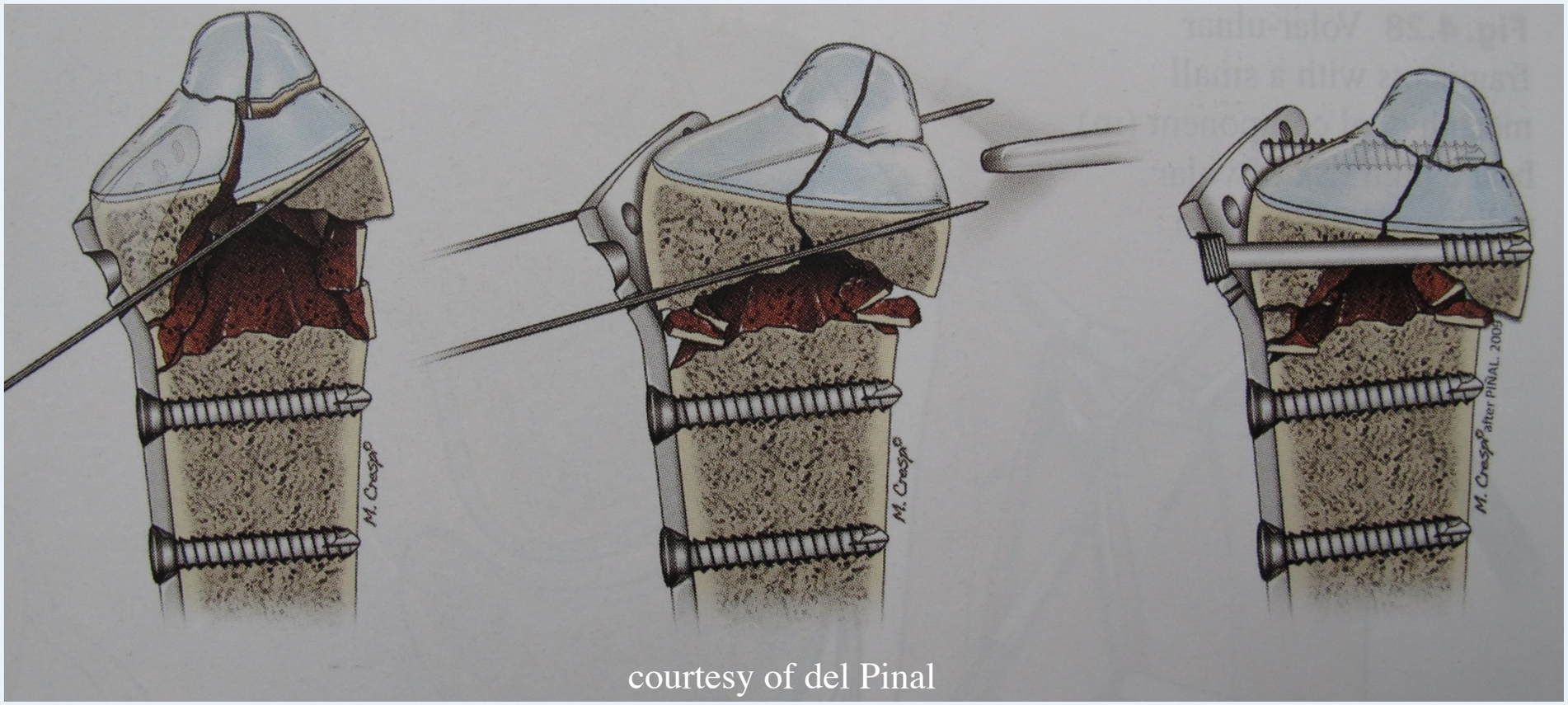
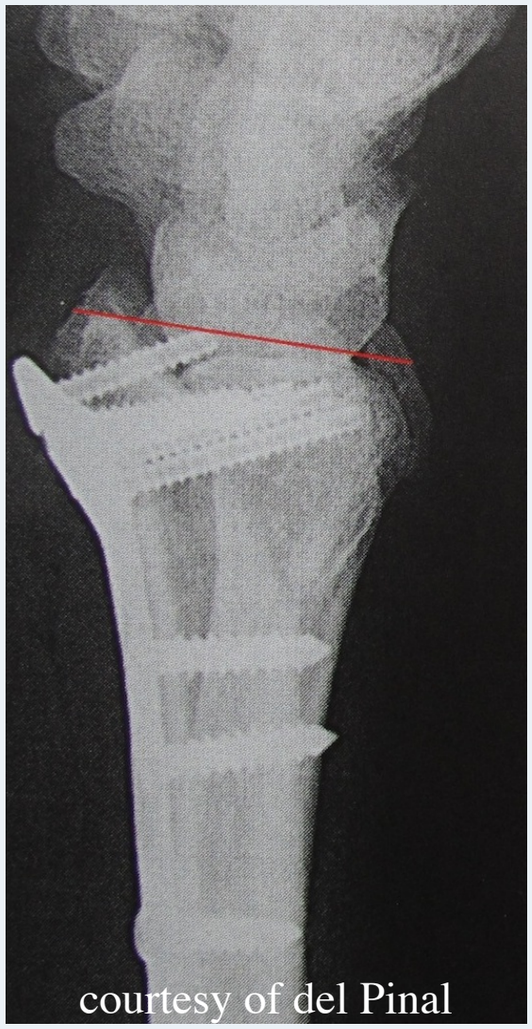
# Horizontal and Vertical Traction System in DRFs

# How to get easier the dorsally displaced distal Radius anatomic reduction ?

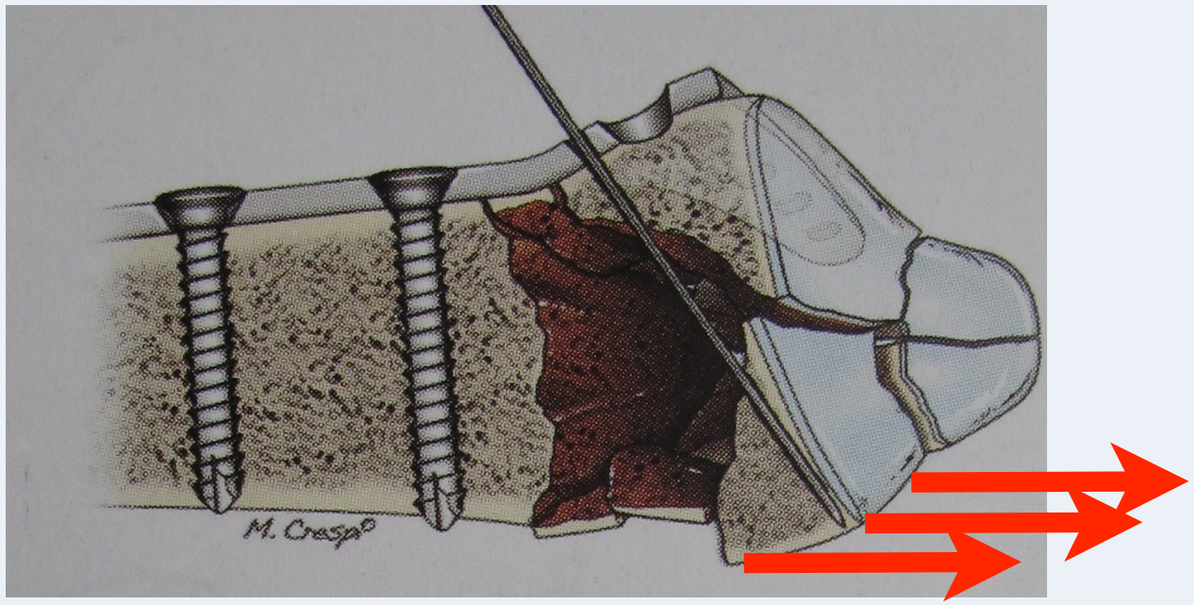


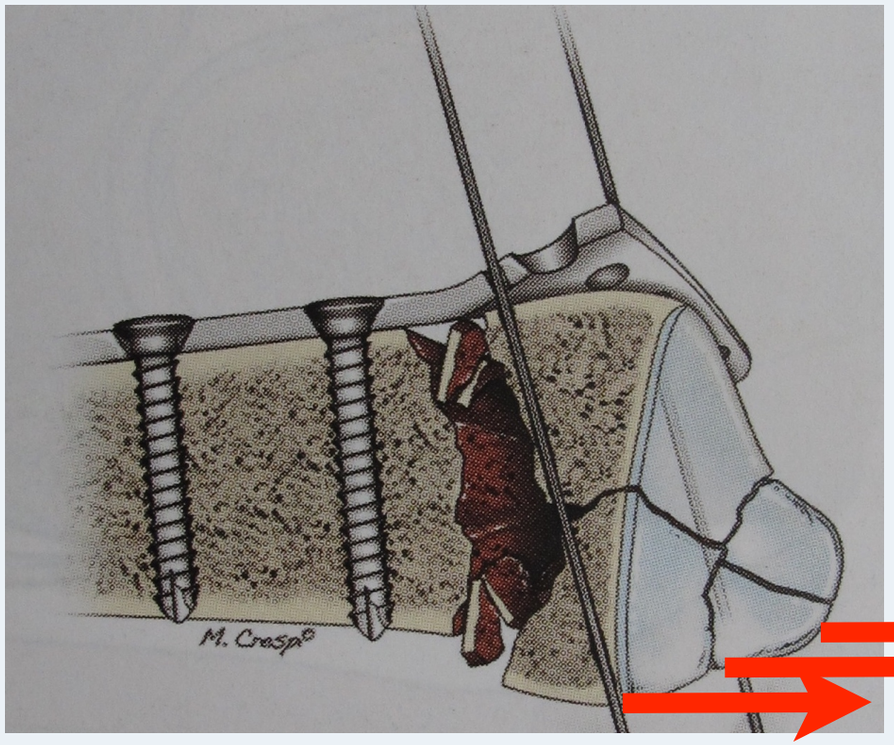

courtesy of del Pinal



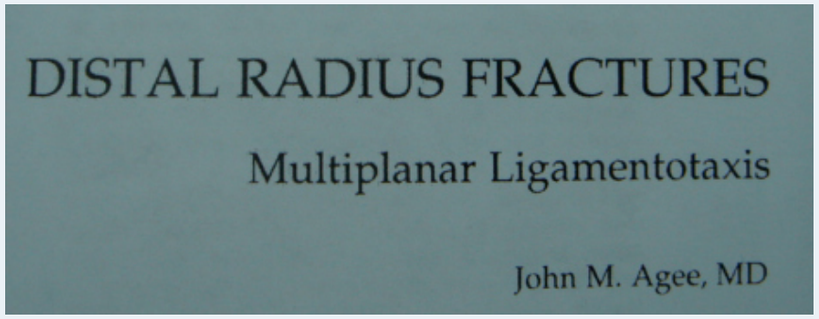
courtesy of del Pinal

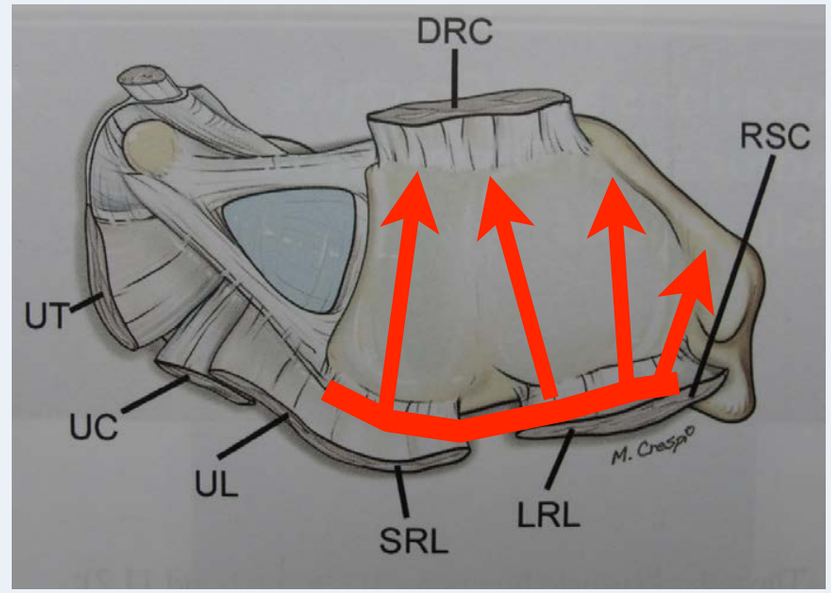
# The Horizontal Traction System..

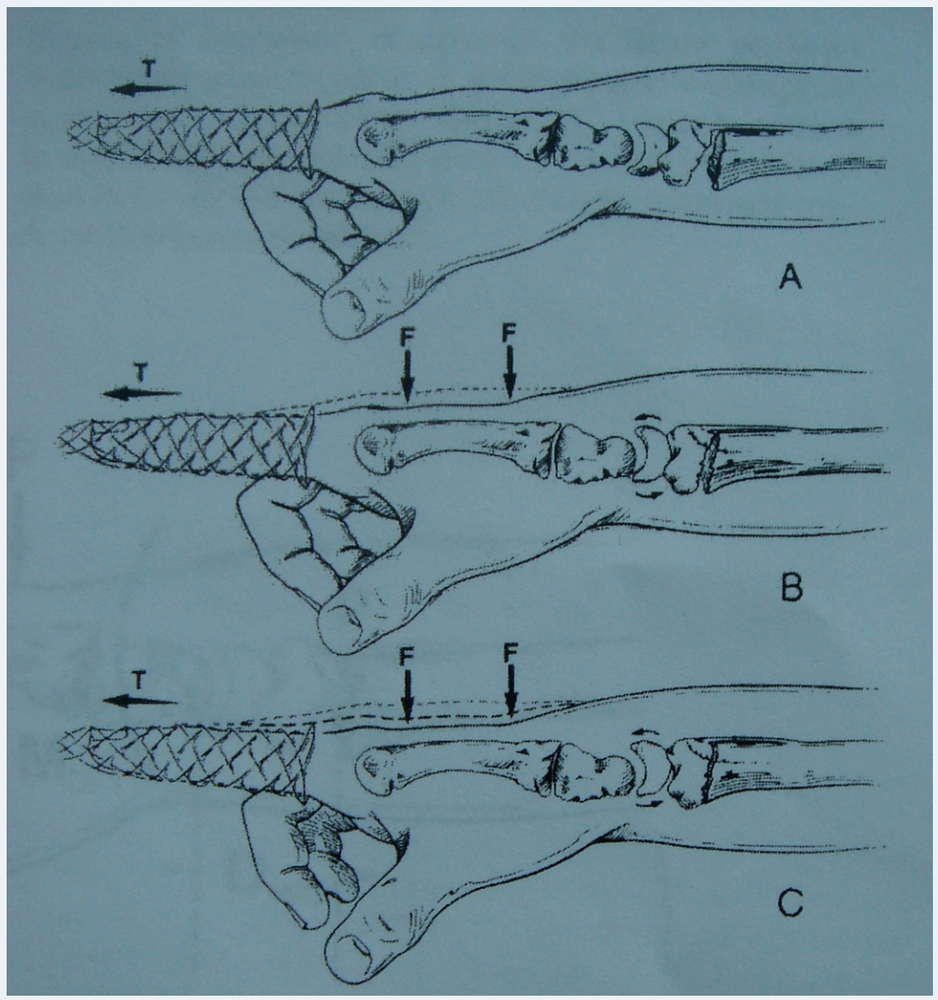


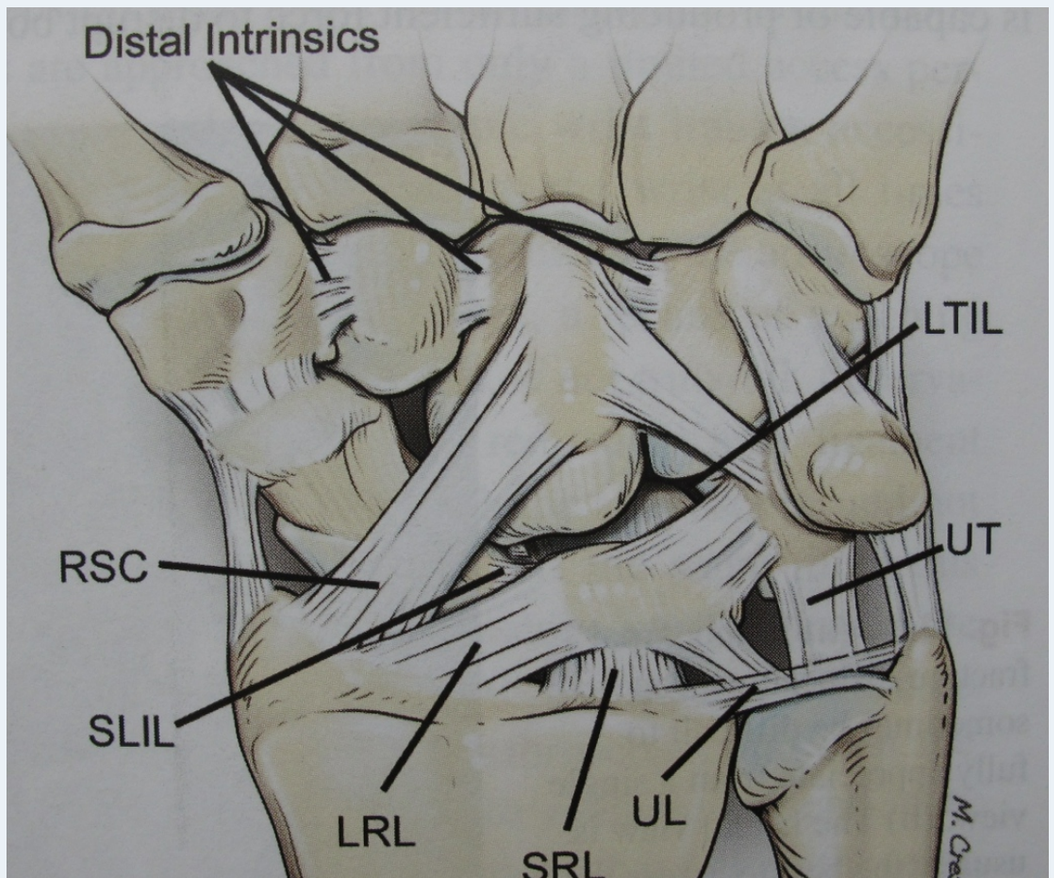
# ...takes advantage of the multiplanar ligamentotaxis of Agee..

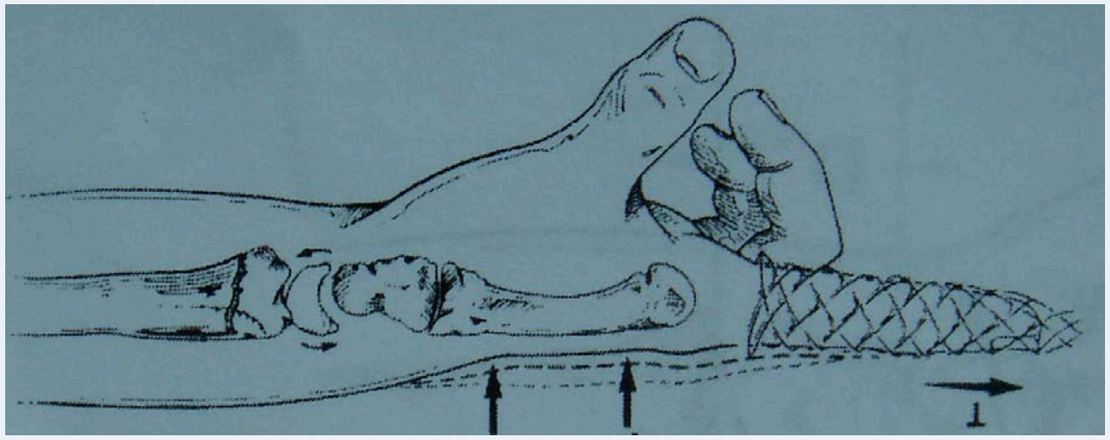


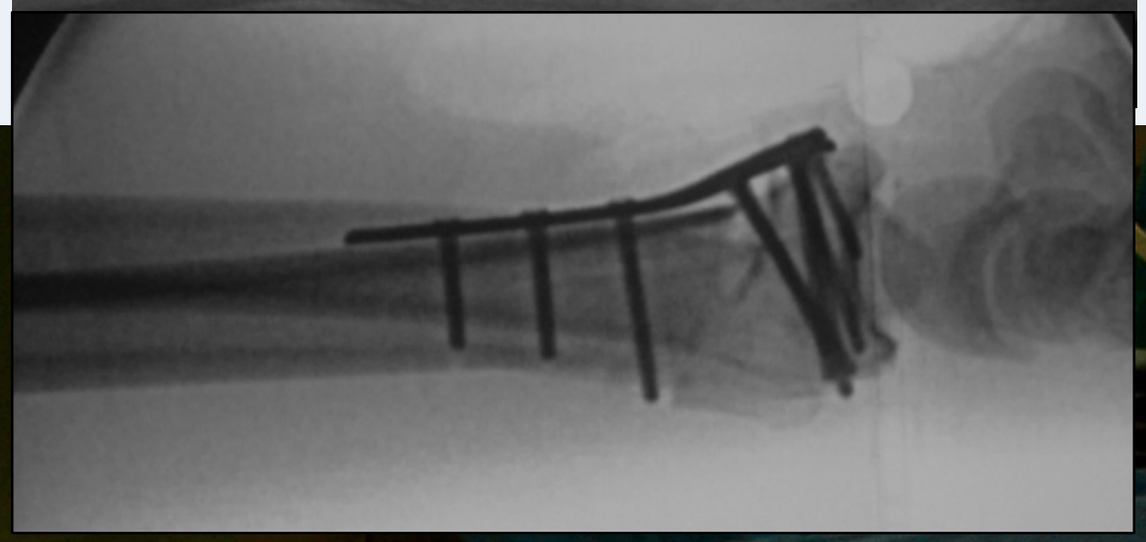




1992

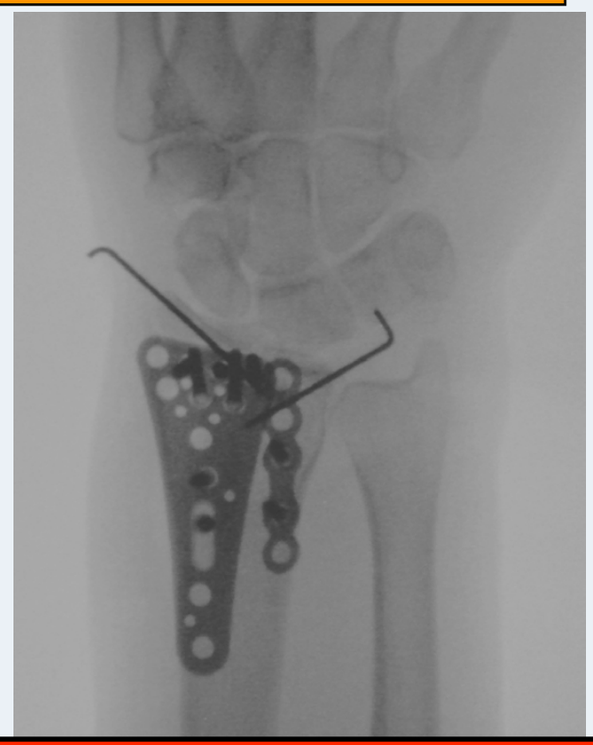




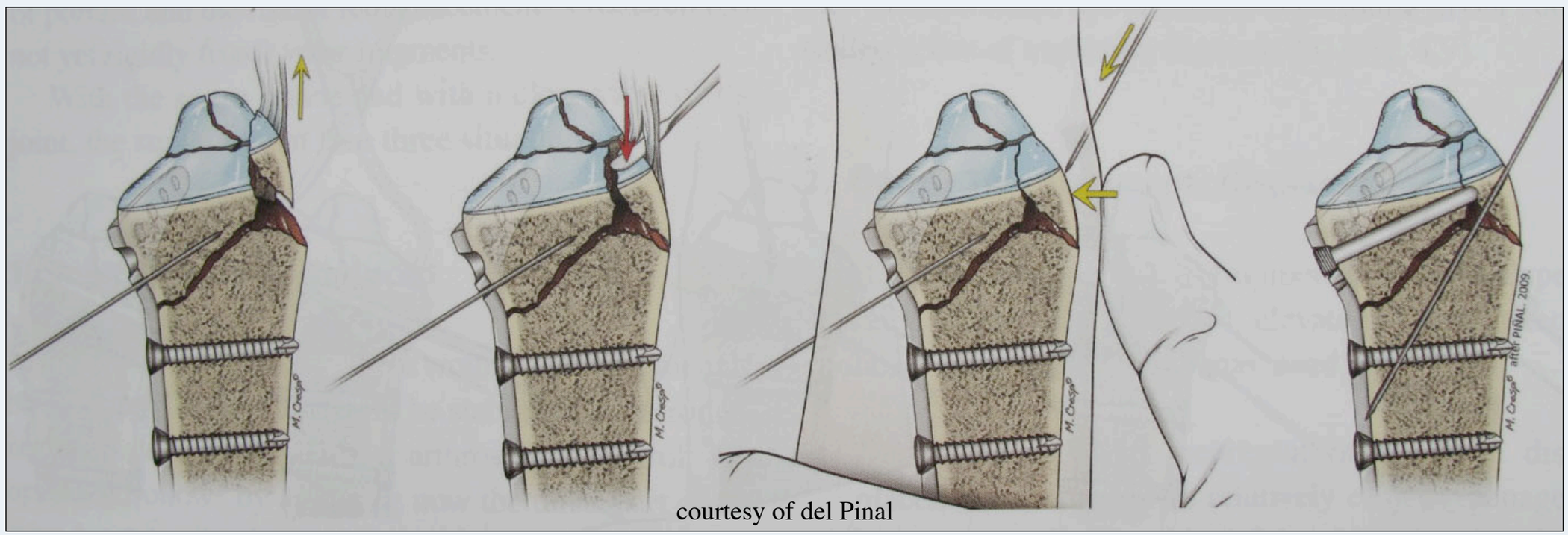


..in the volar fixation

# The vertical Traction System..



get easier the dorsal open or arthroscopic assisted reduction/ fixation !




courtesy of del Pinal

courtesy of M. Henry

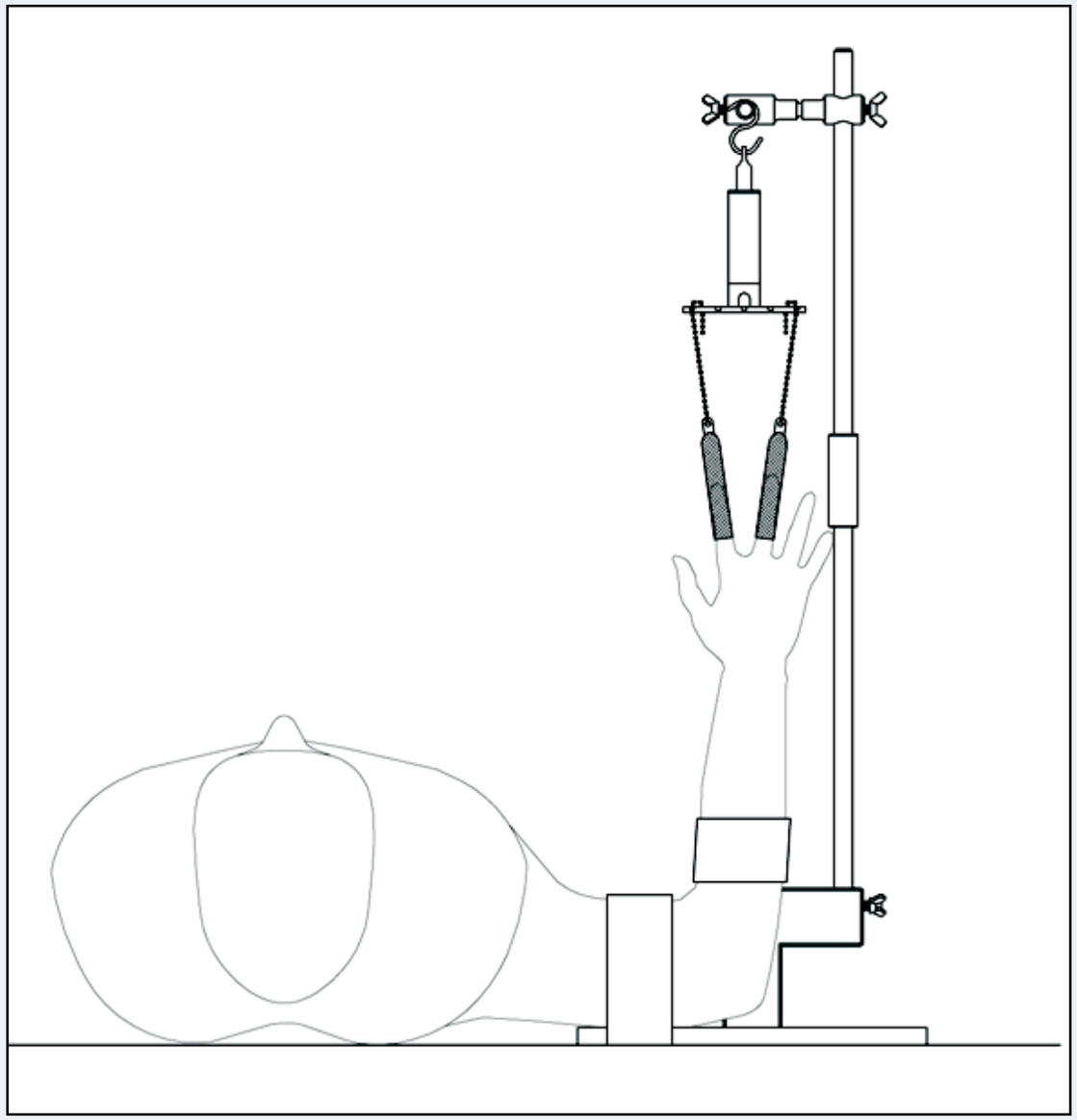
# VERTICAL TRACTION SYSTEM

# HORIZONTAL TRACTION SYSTEM

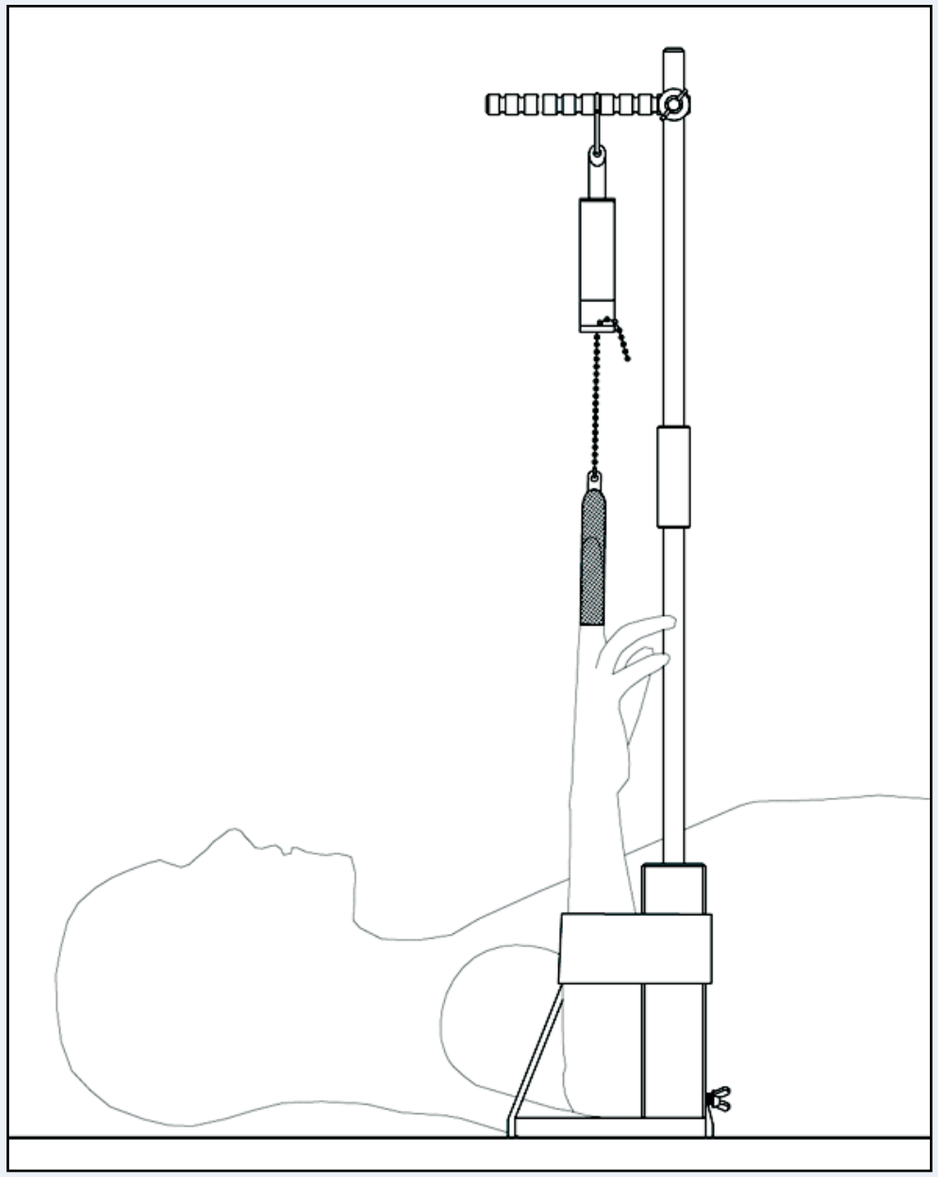
X-RAY IN P.A./L.L. VIEWS

* NO RADIOLOGICAL EXPOSURE !

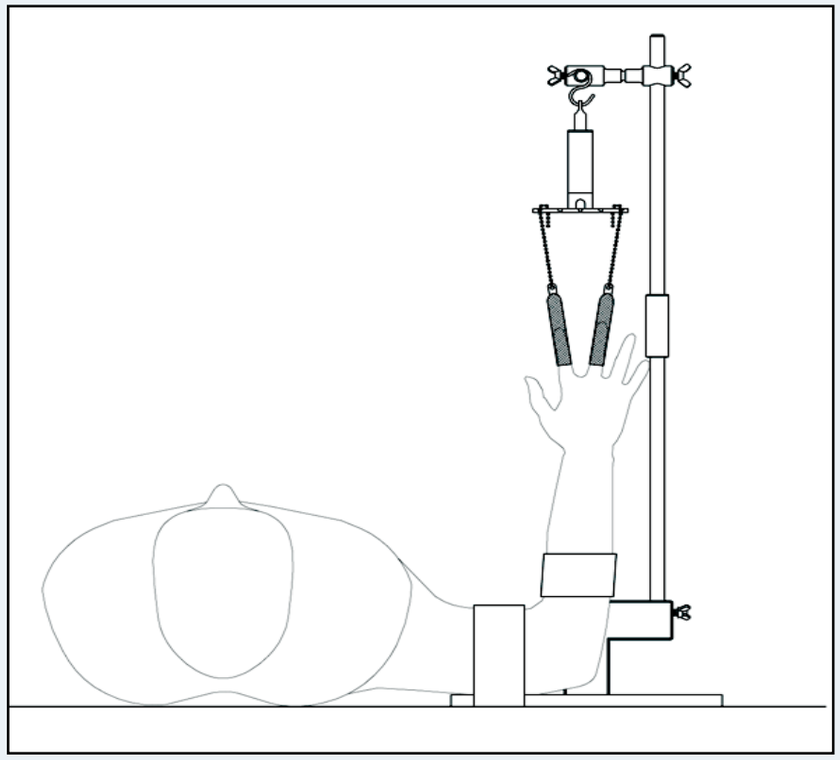
# ECCENTRIC TOWER

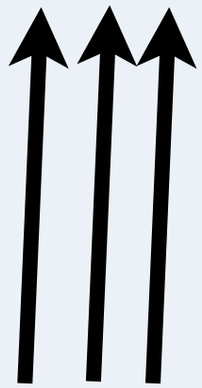


FRONTAL PLANE

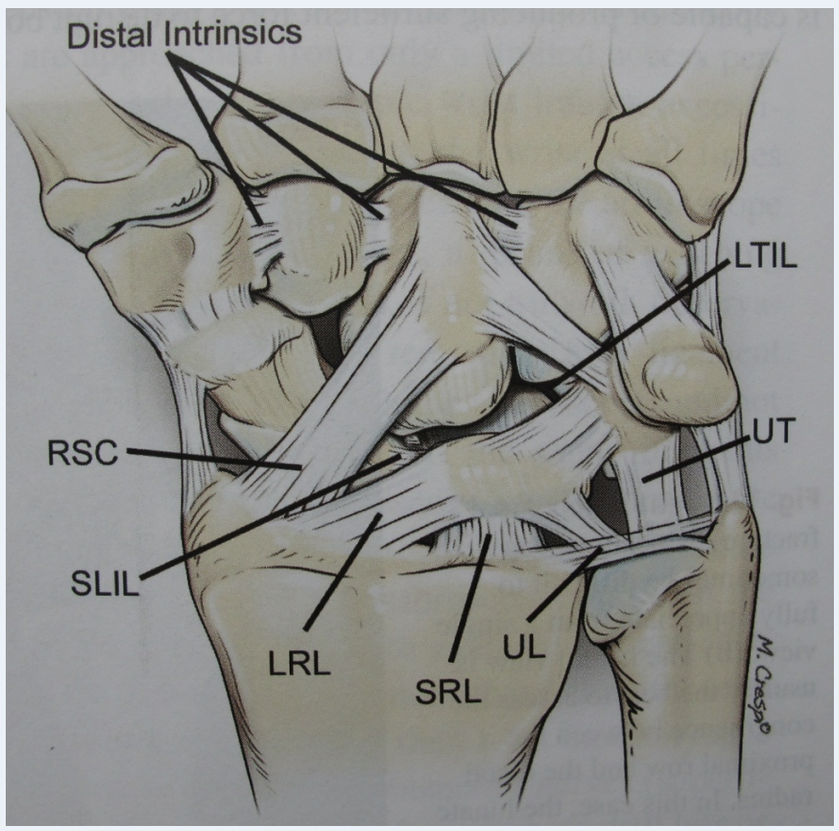


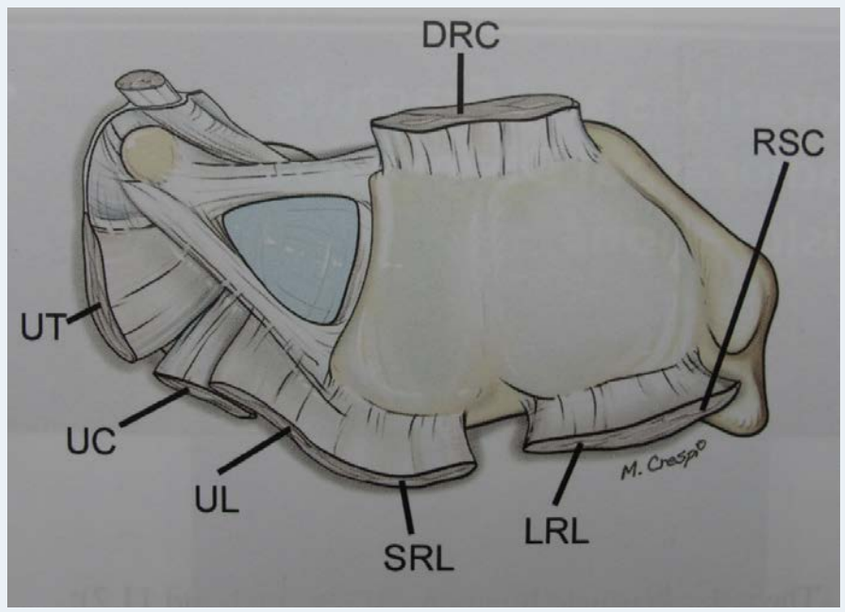
LATERAL PLANE





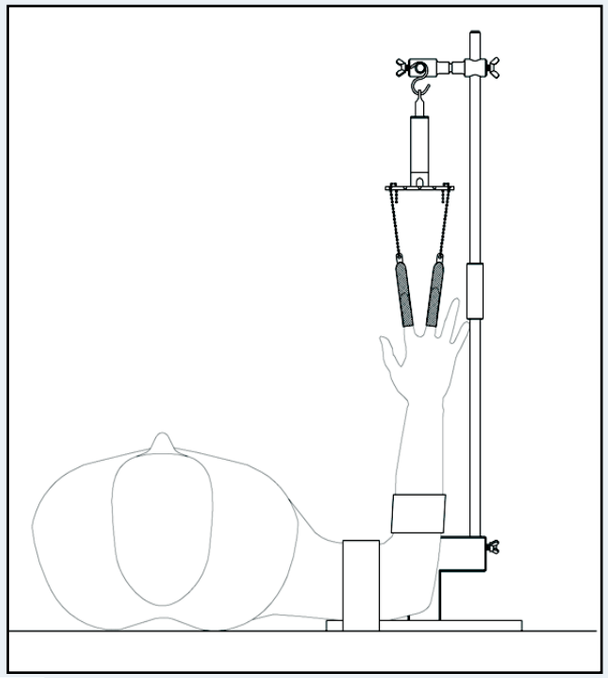
# LIGAMENTOTAXIS



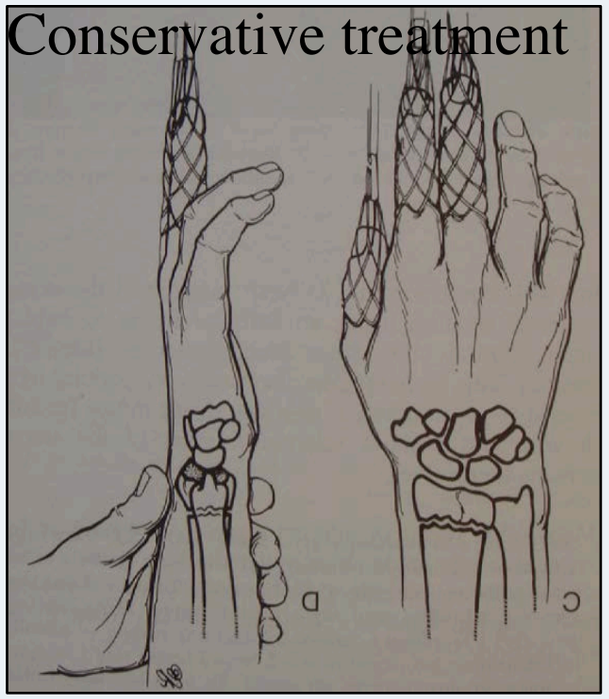



# A Vertical Traction for a better understanding of fracture pattern

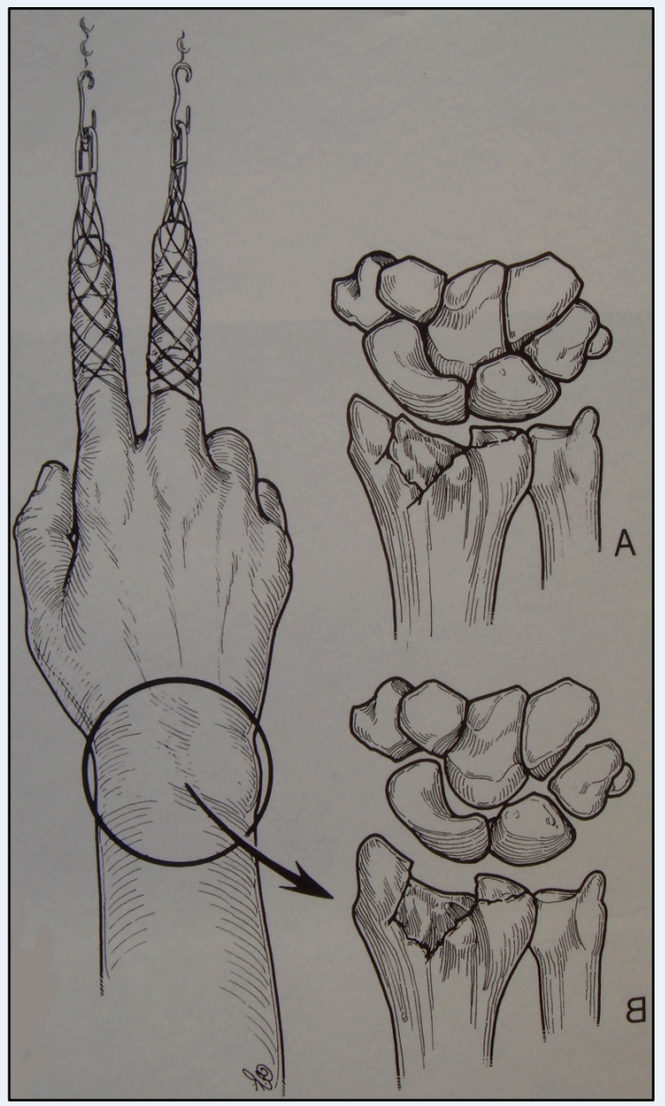
10 min.
Local
anesthesia



Conservative treatment



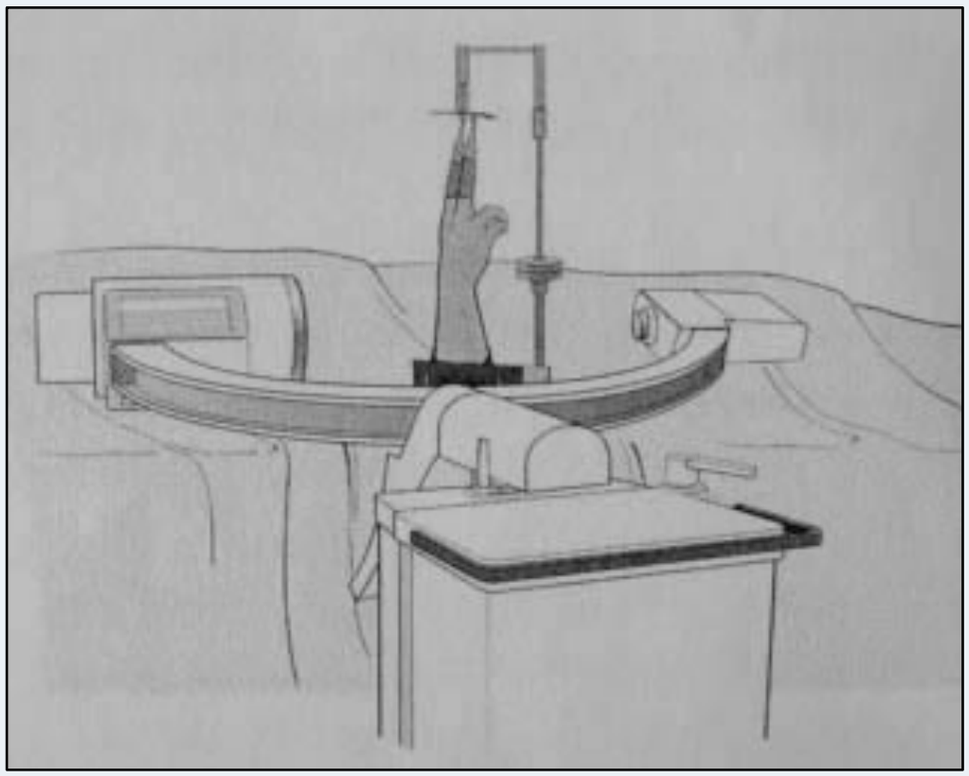
Intraarticular Fracture




Open or ARS
assisted fixation

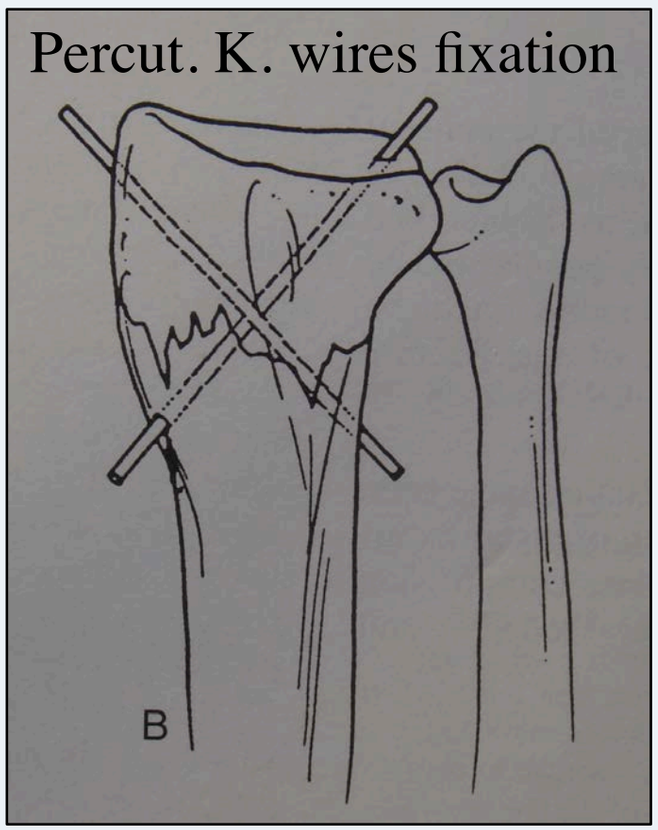
stress view !!

Unstable fracture ?



Extraarticular Fracture

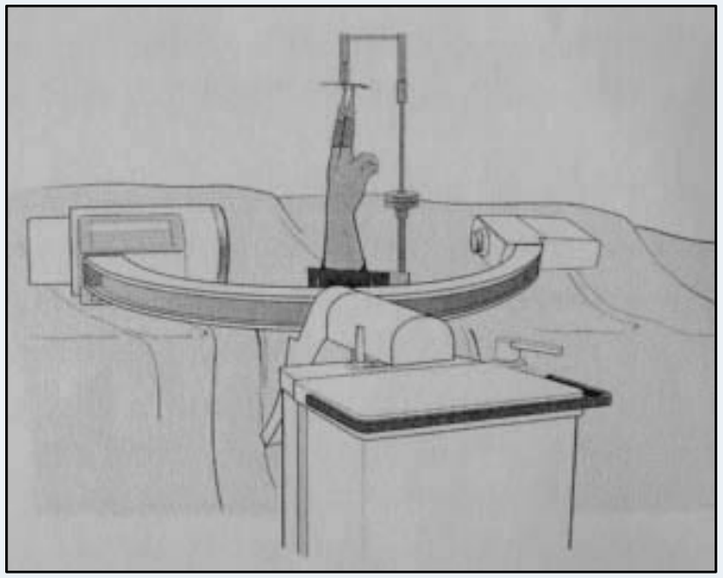
Percut. K. wires fixation

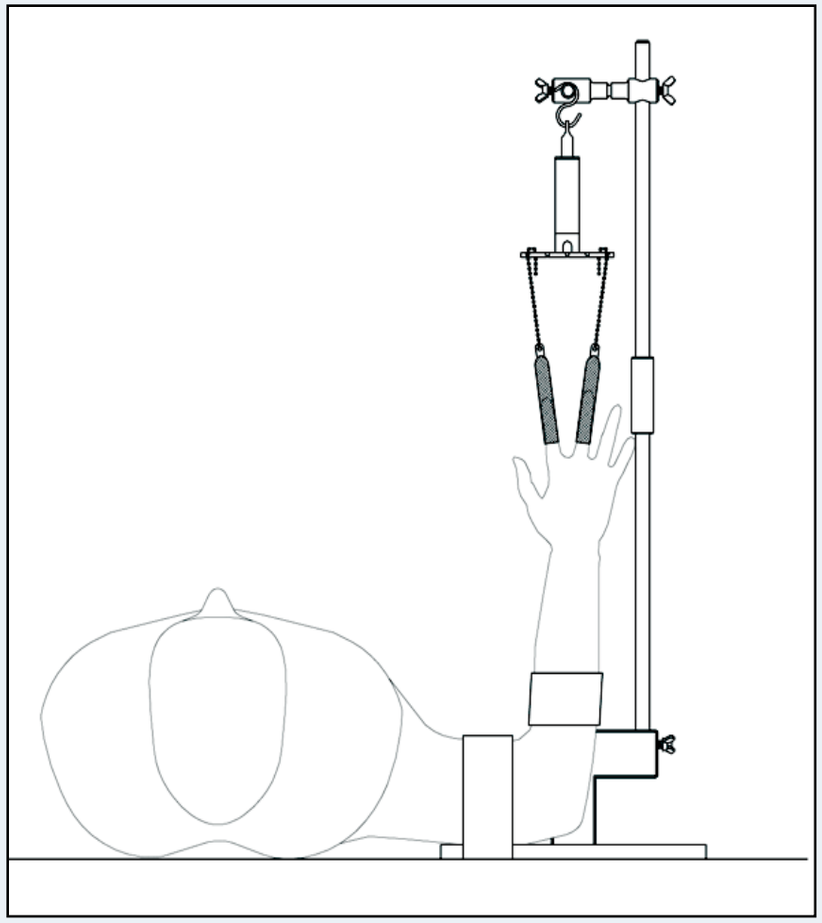


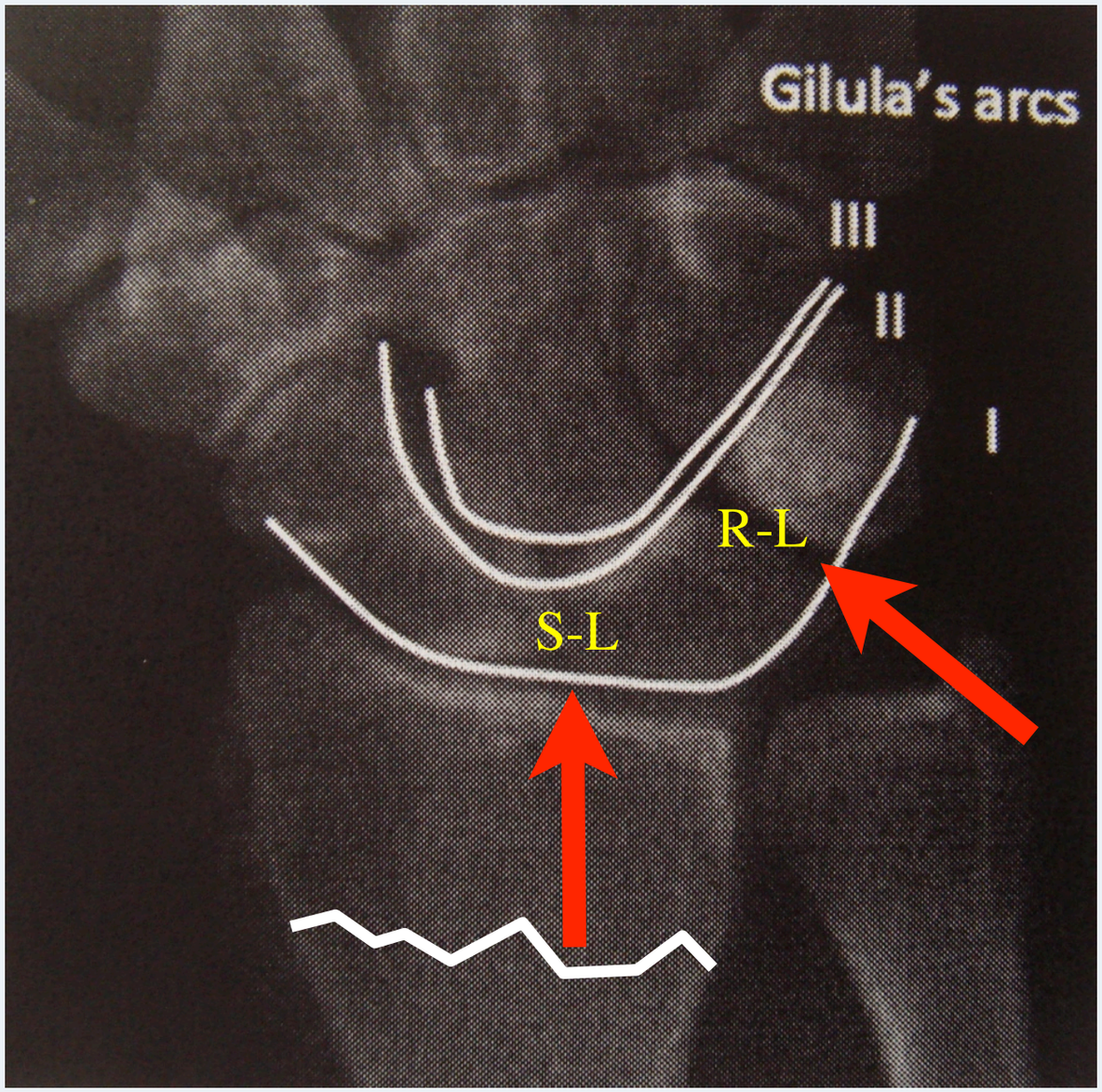
A Vertical Traction for a better understanding of associated injuries !

# TRACTION

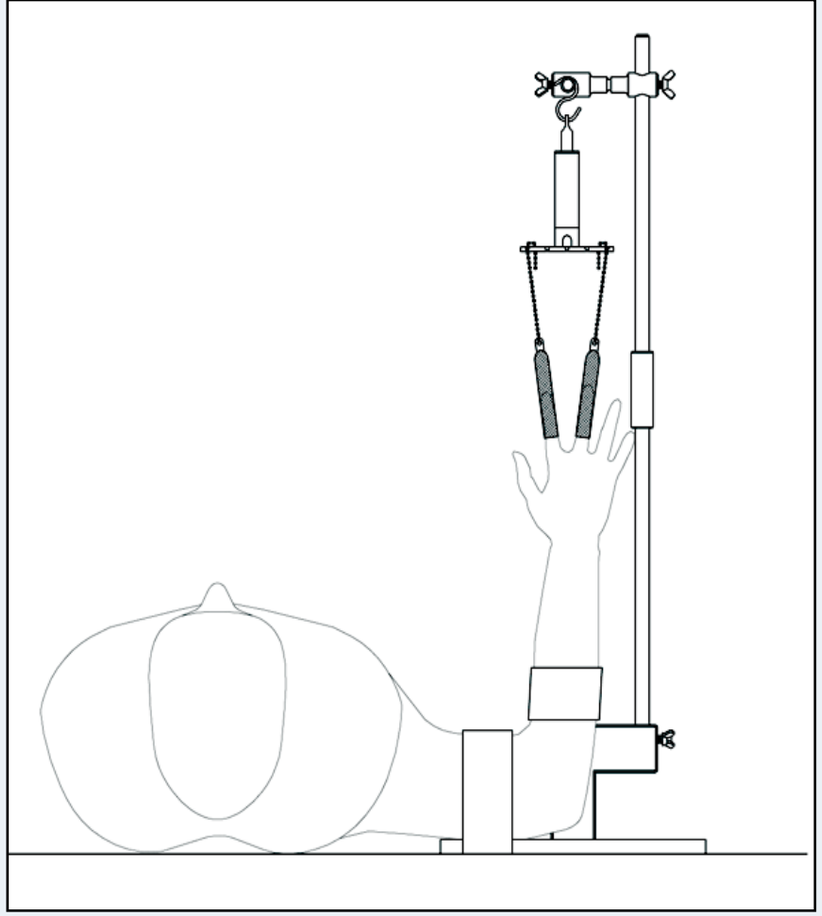
STRESS VIEW !!!



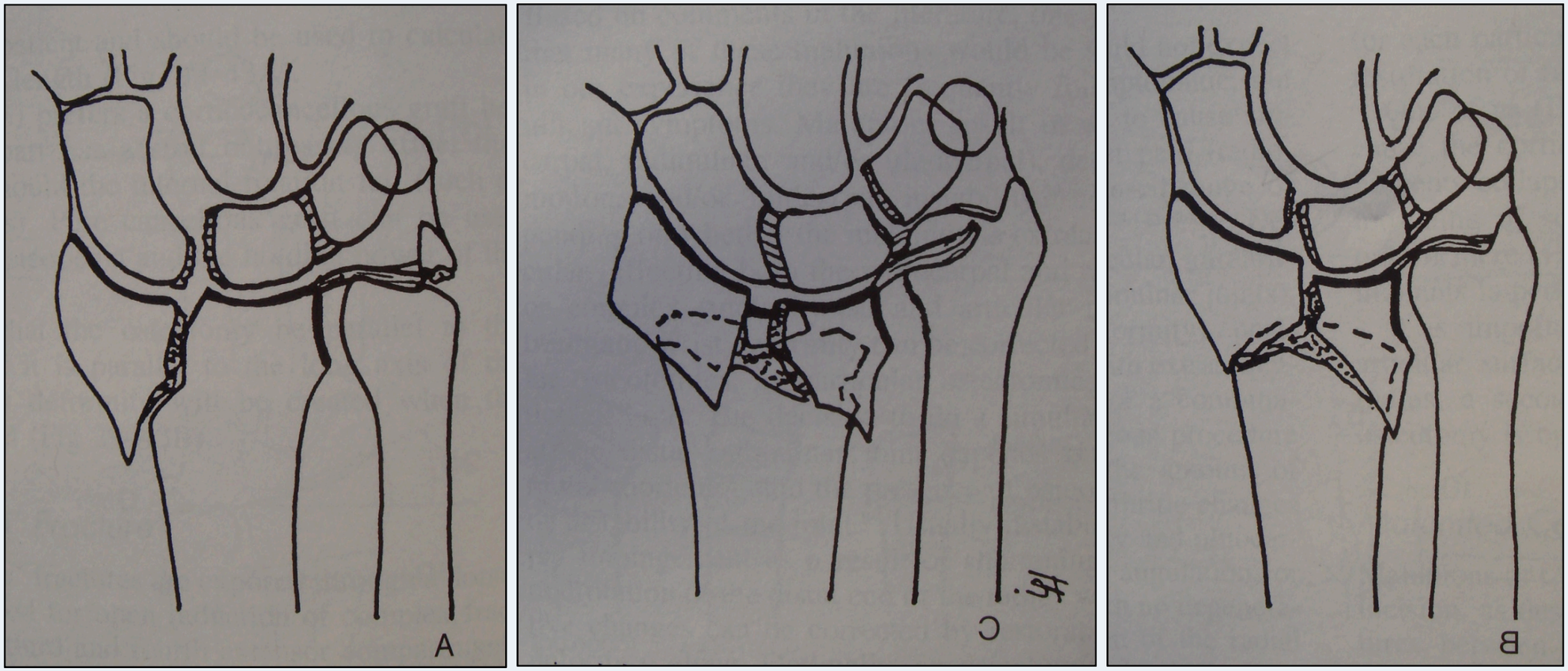




A Vertical Traction for a better understanding of complex fractures

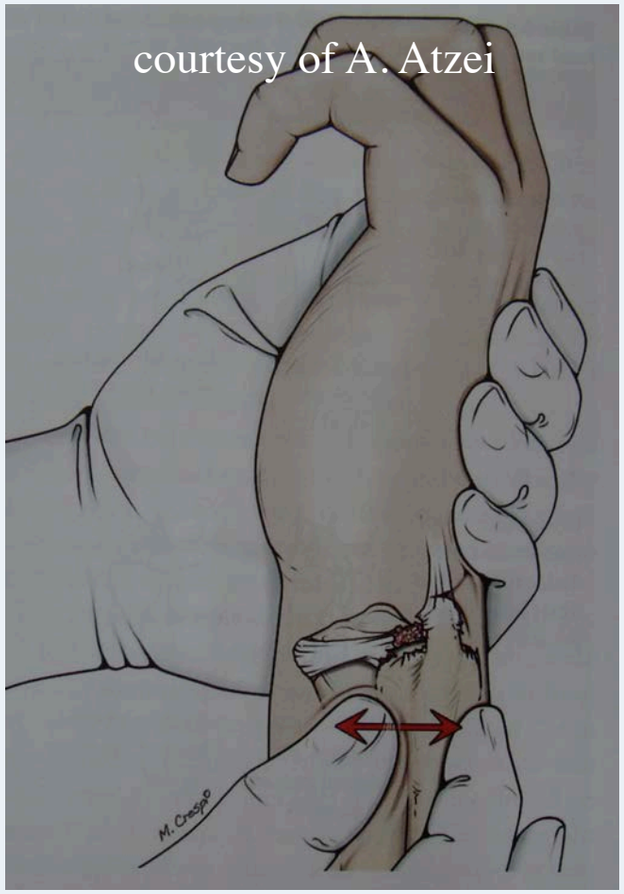


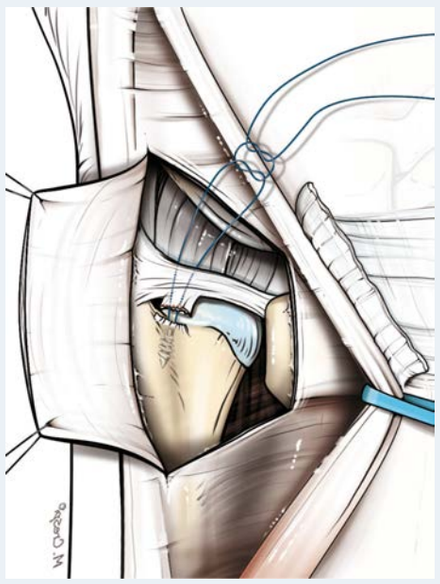
TRACTION

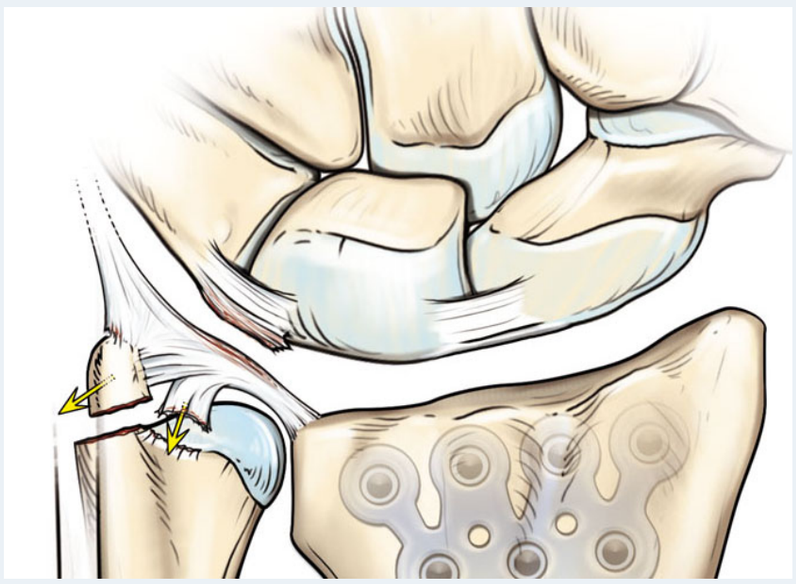


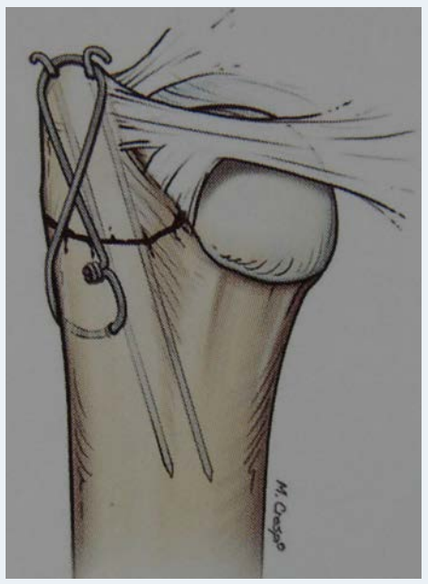

D. Fernandez, Bern

# A Vertical Traction for a better understanding of DRUJ associated injuries preop. and intraop.

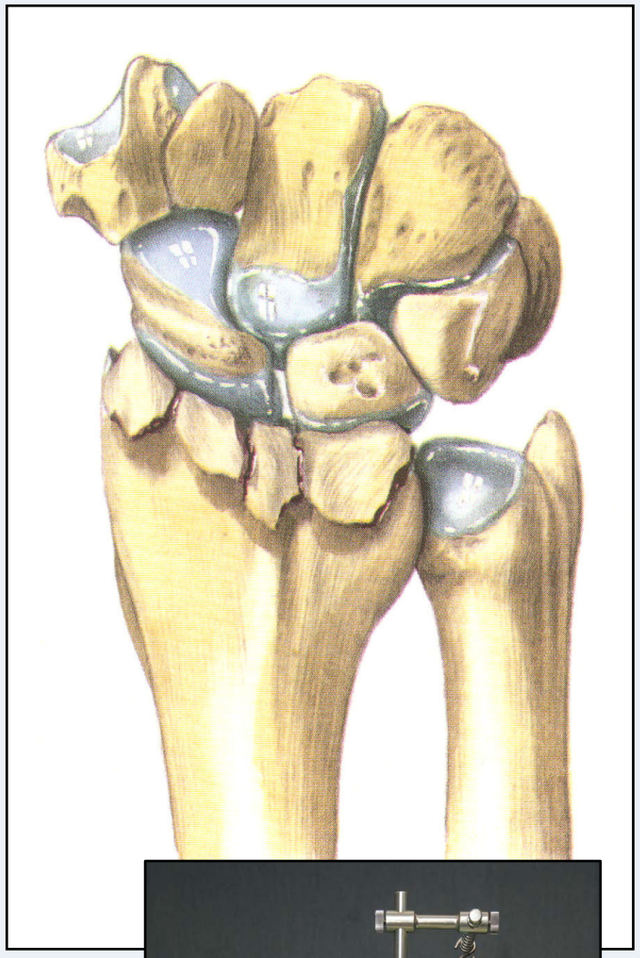


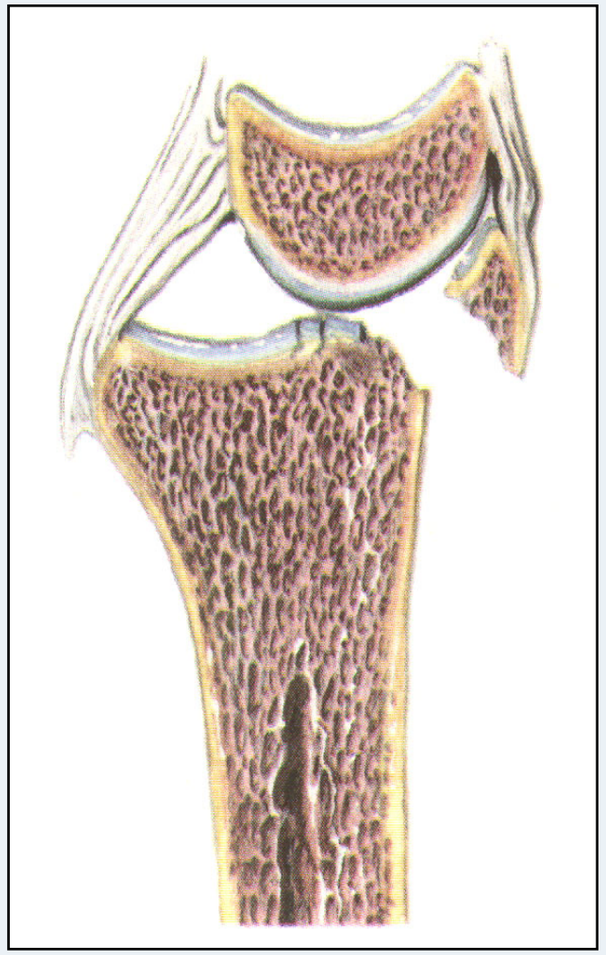







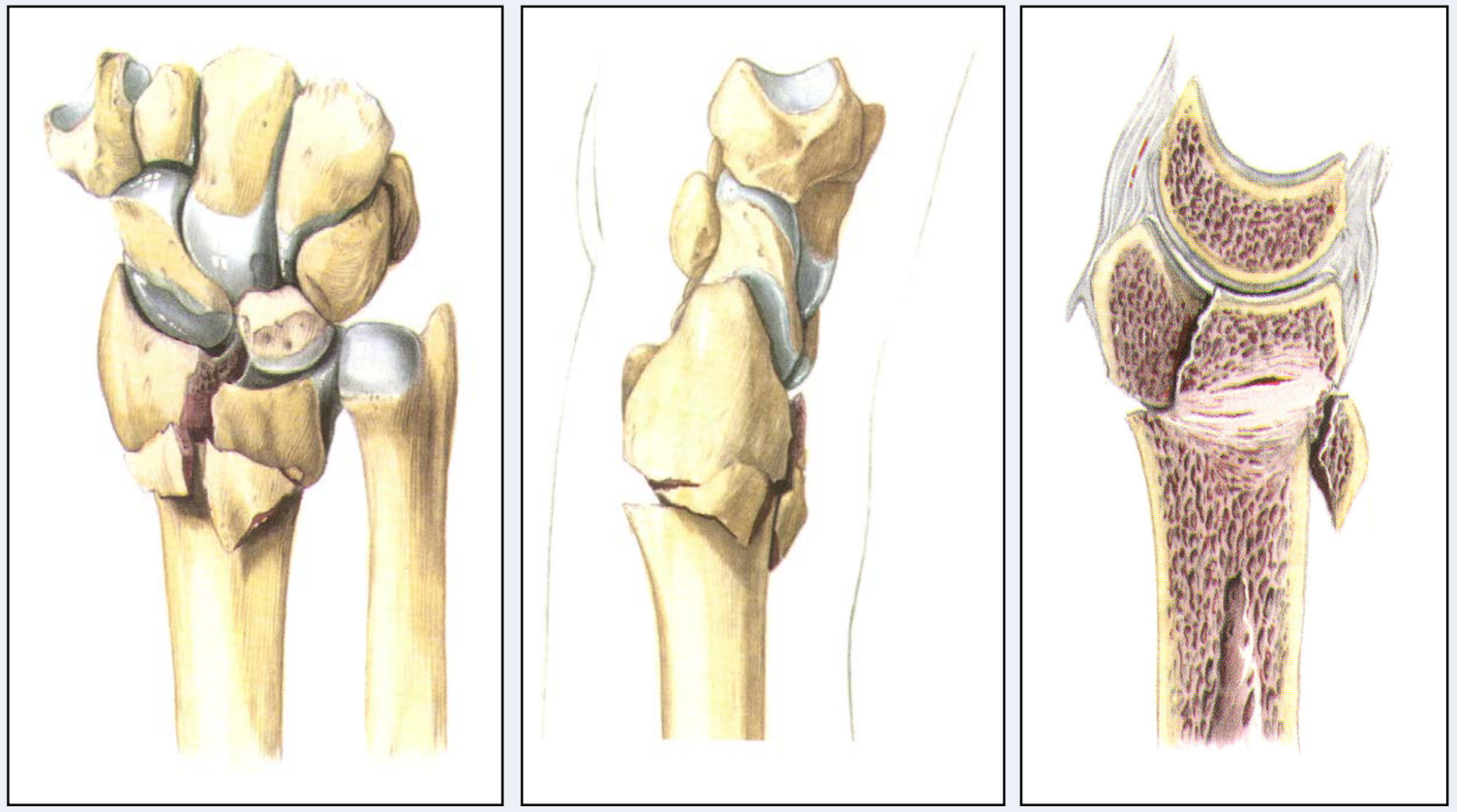
# Pechlaner 1988





## DORSAL APPROACH

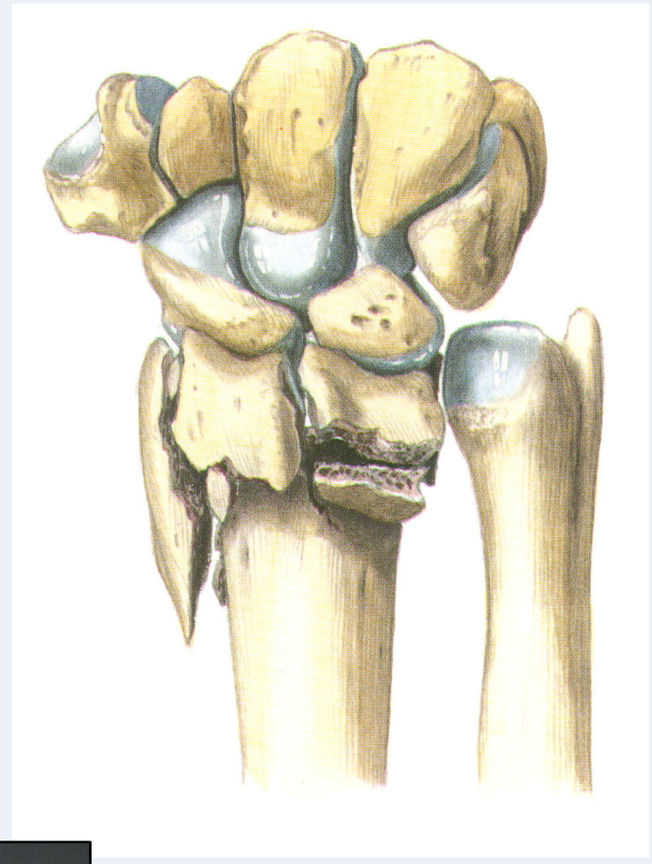
# Pechlaner 1988

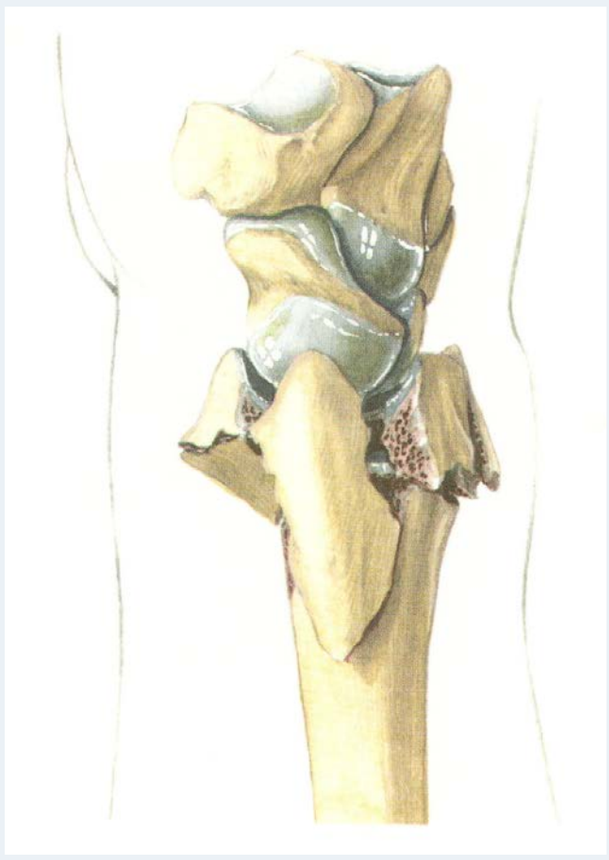


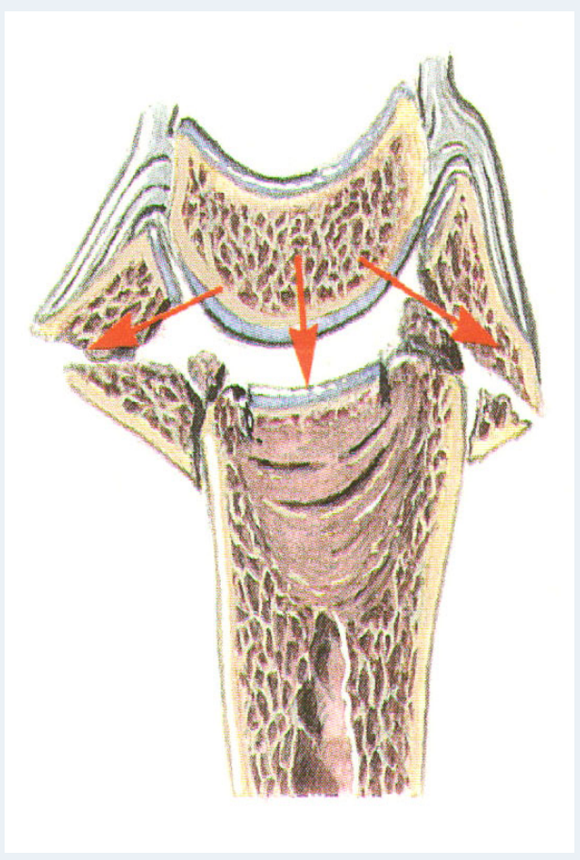
MOST DORSALLY DISPLACED FRACTURE

## VOLAR APPROACH

# Pechlaner 1988





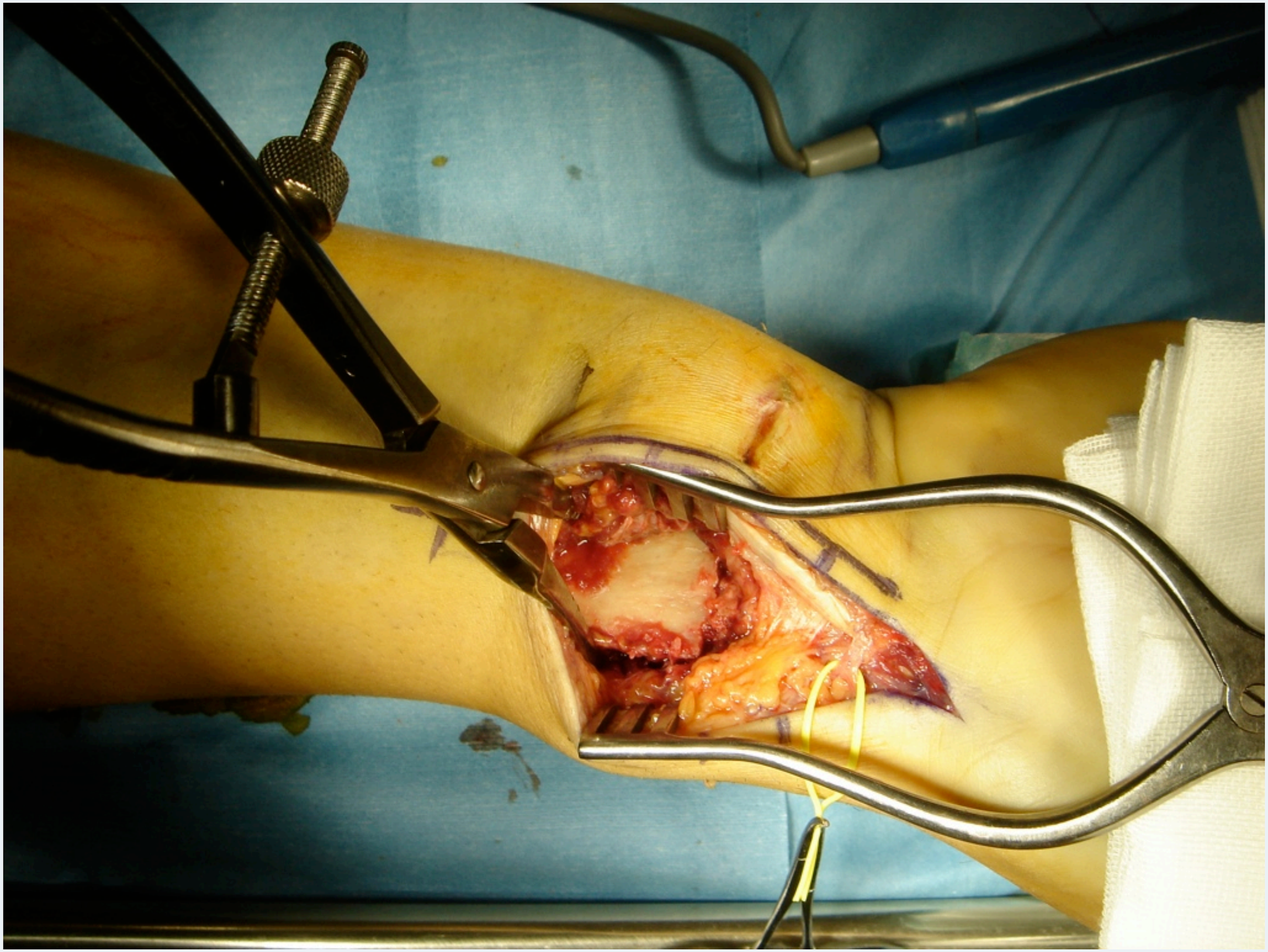


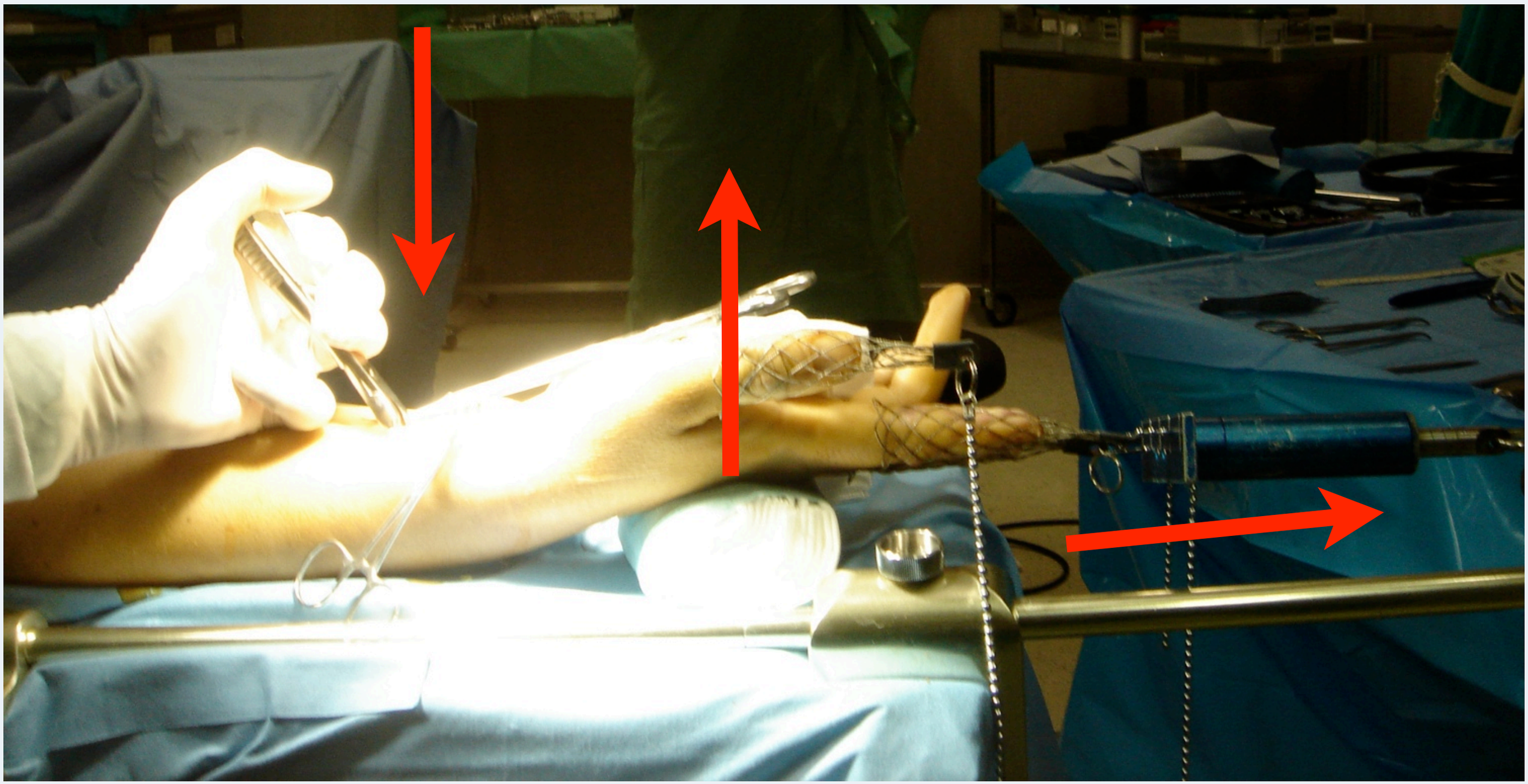
COMBINED APPROACH !

# OPEN VOLAR FIXATION !

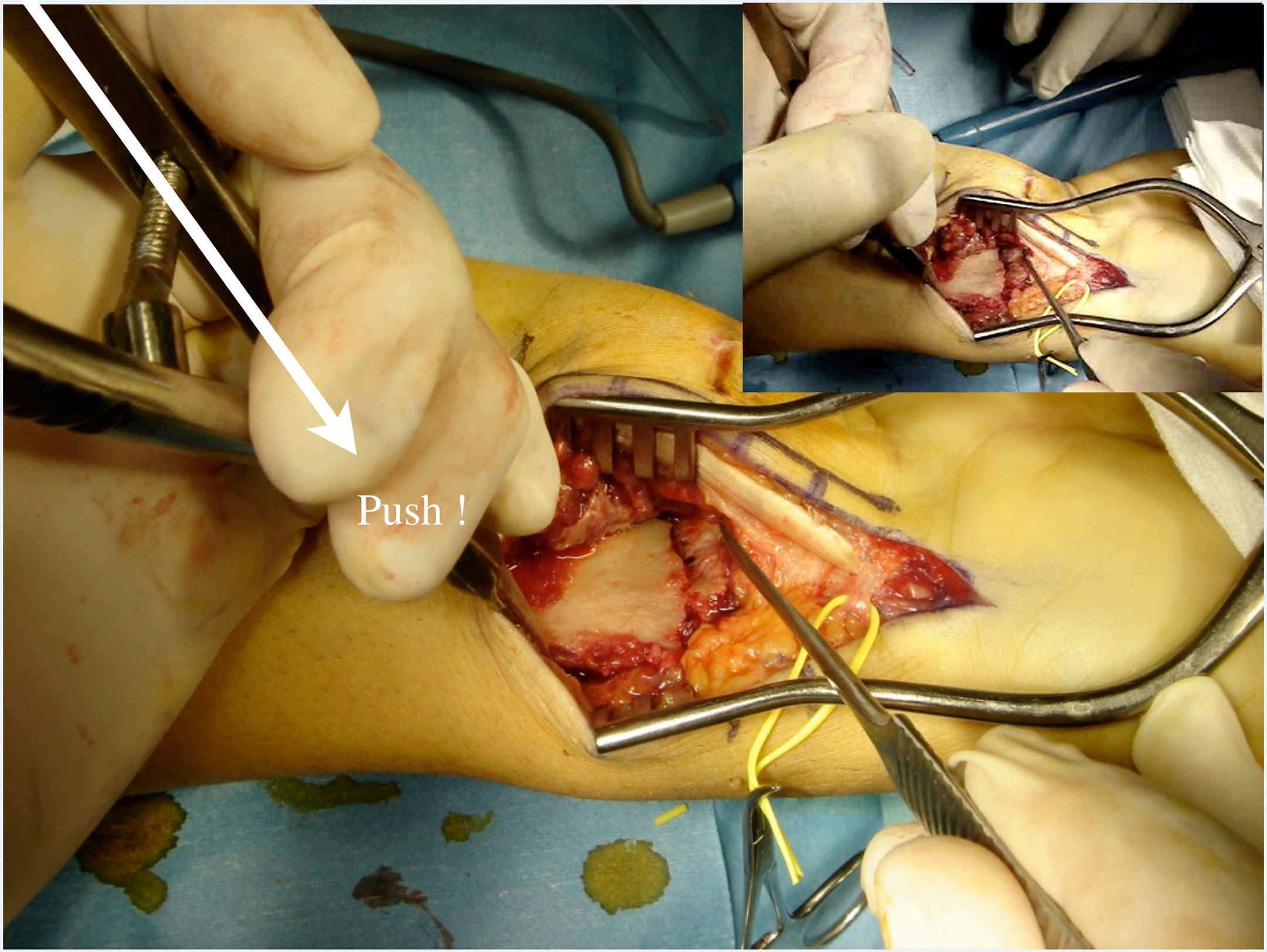
Man, 45 y.

# 1 SURGEON !



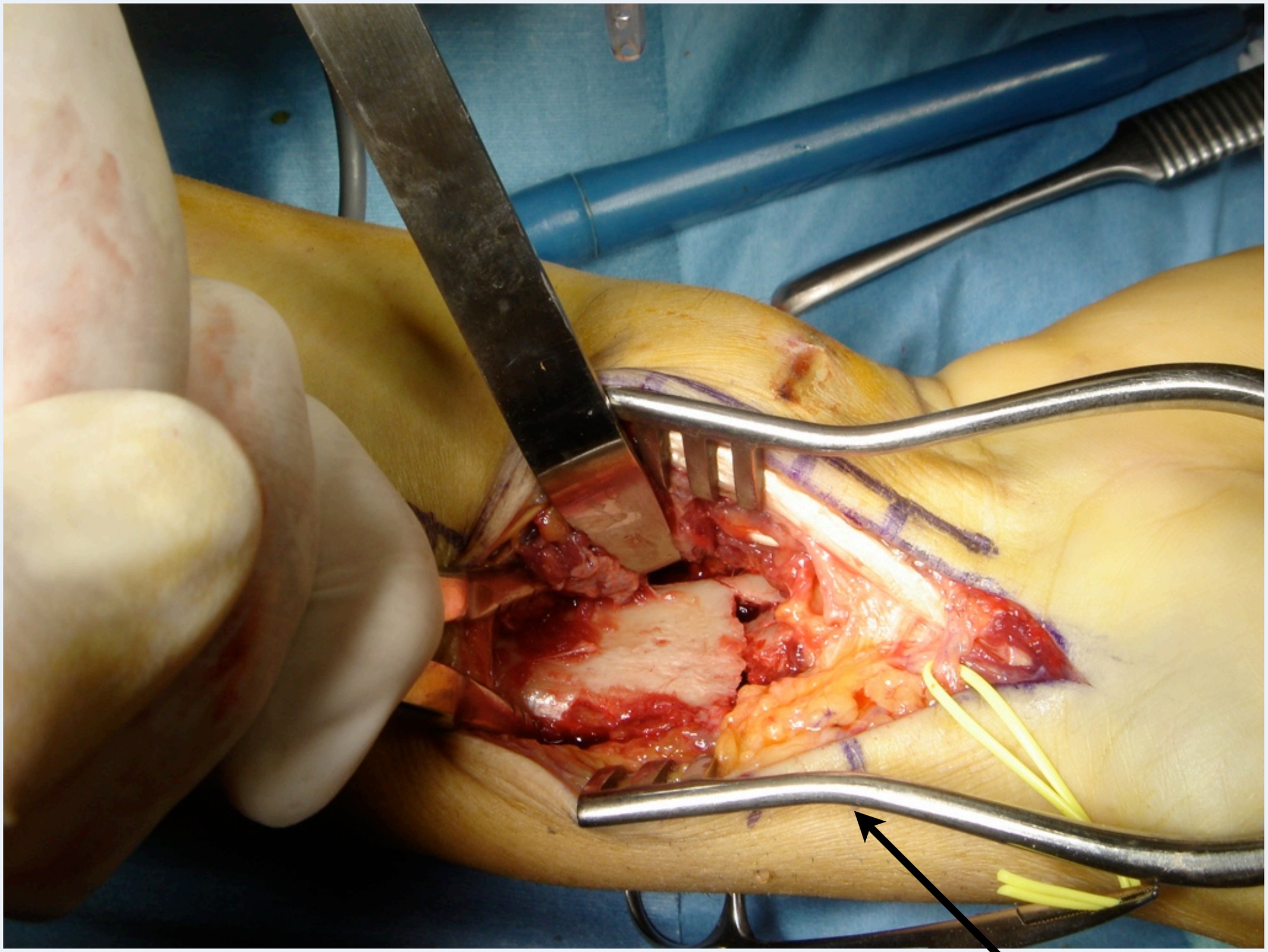


Left hand



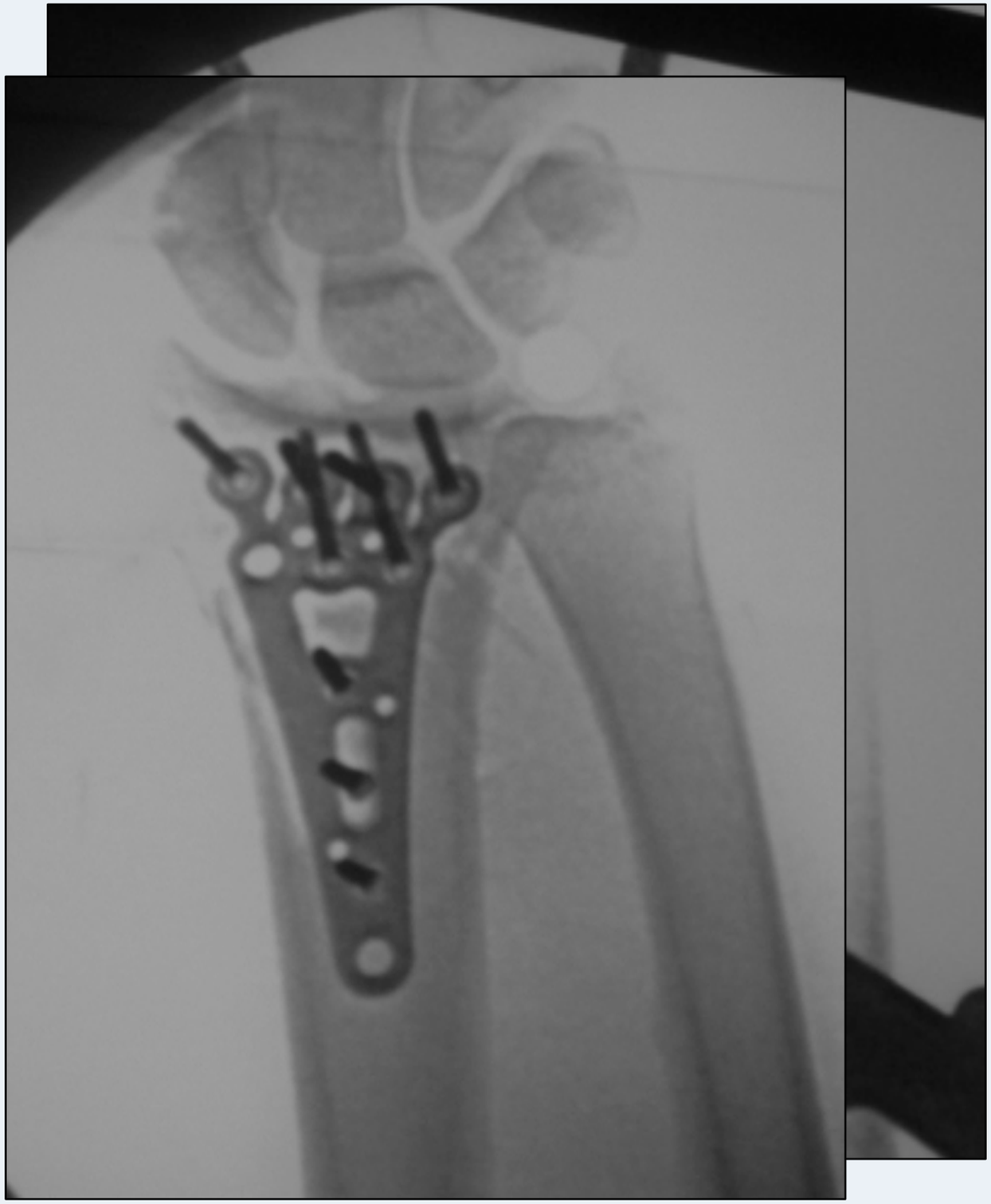

1 SURGEON !

Right hand

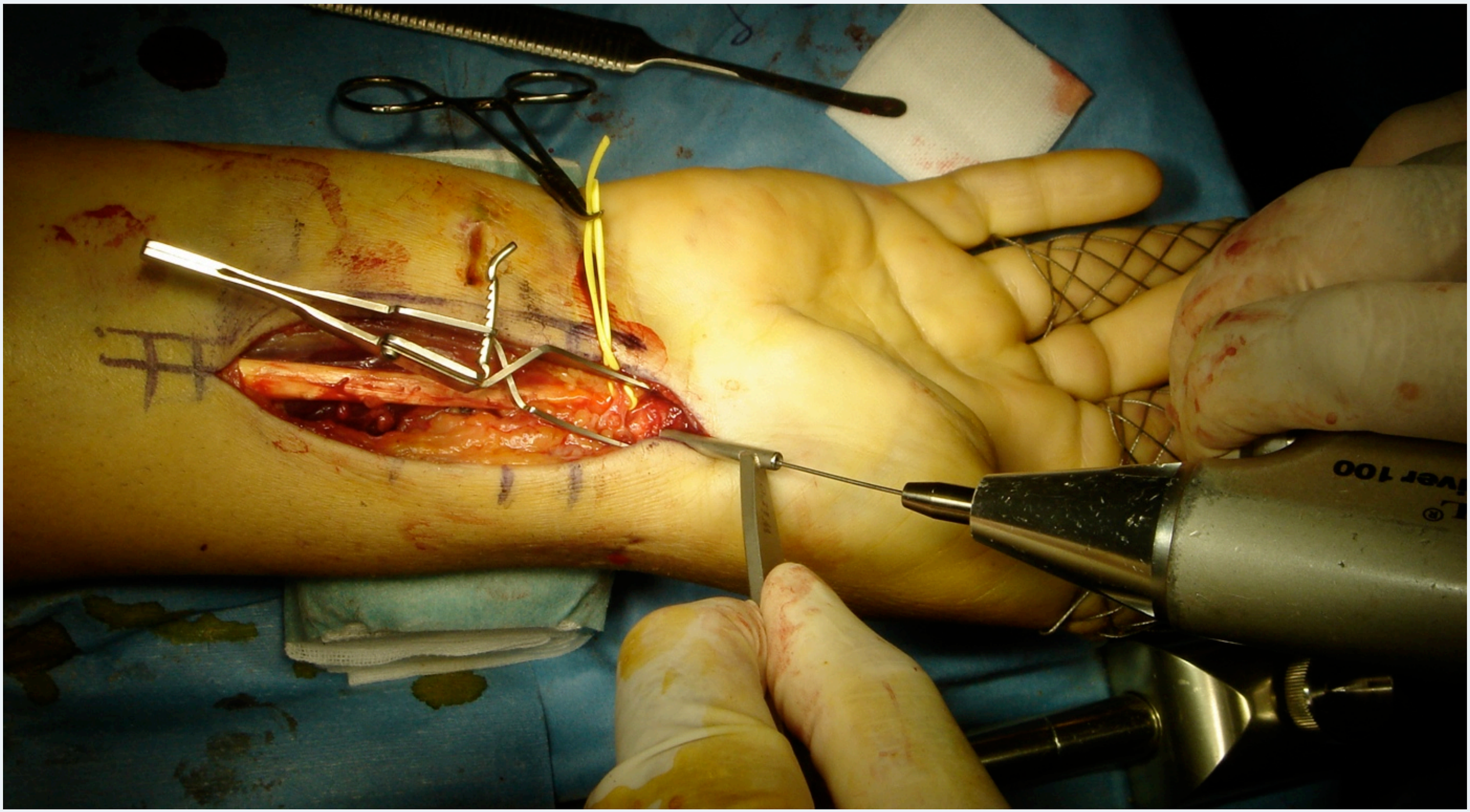


1 SURGEON !

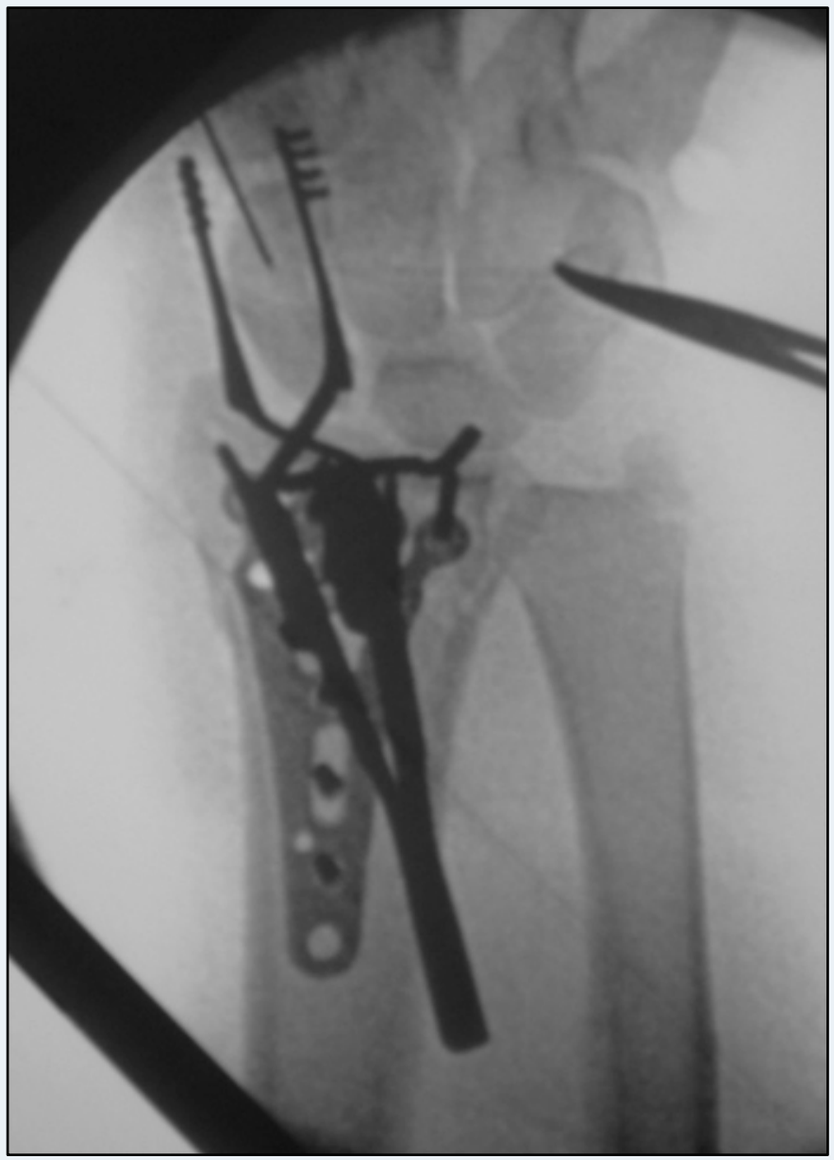
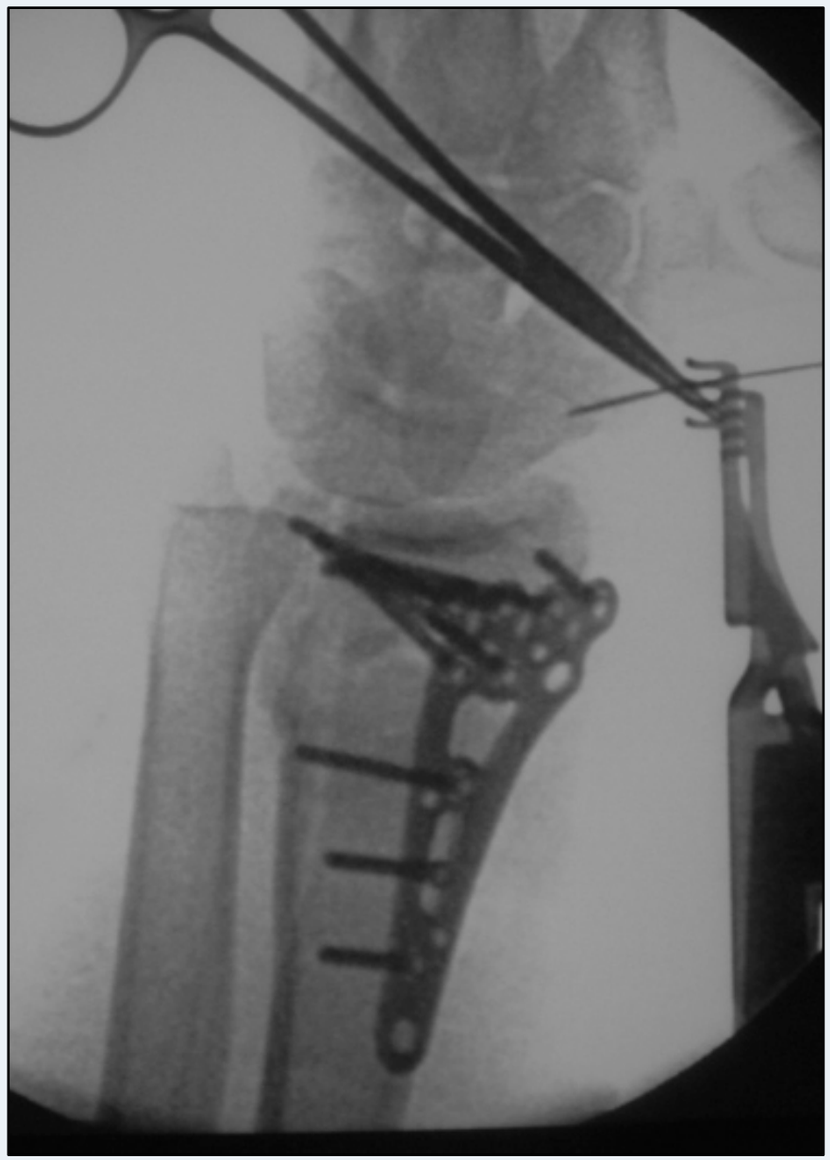
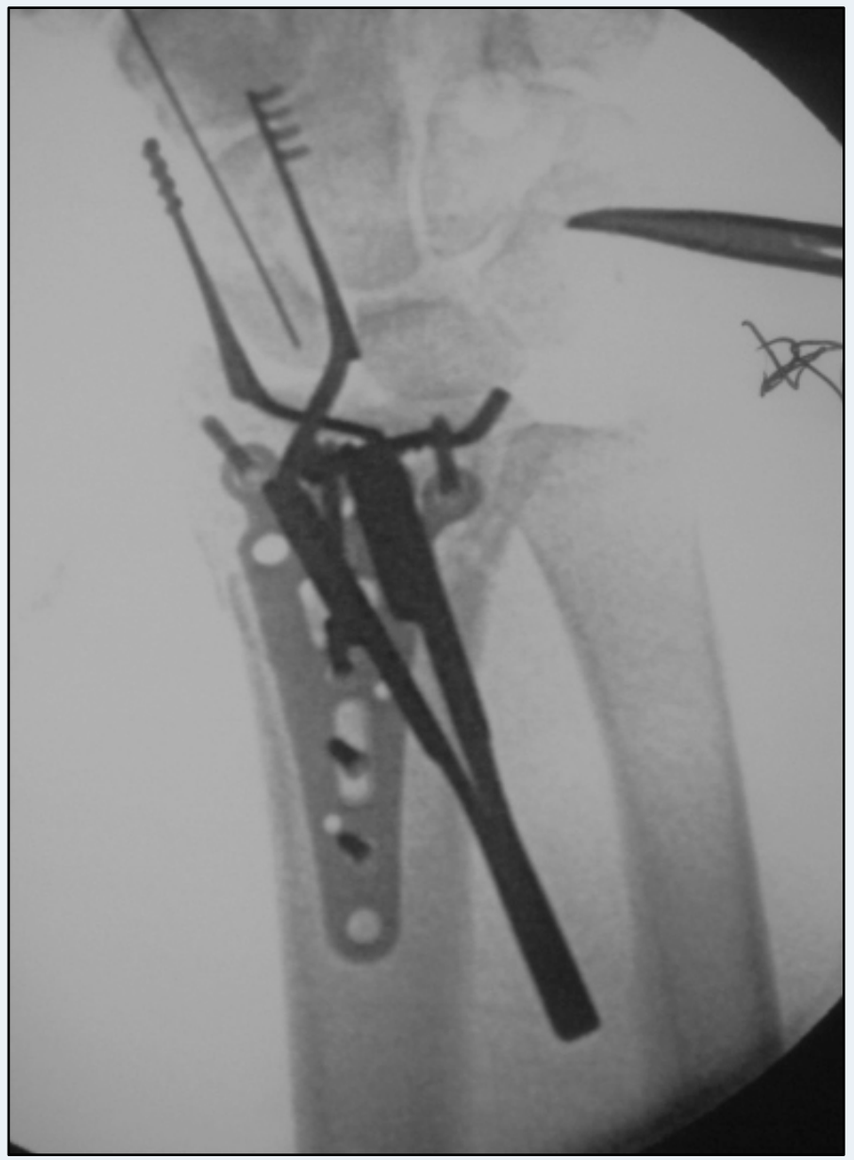
K. wire temporary fixation !

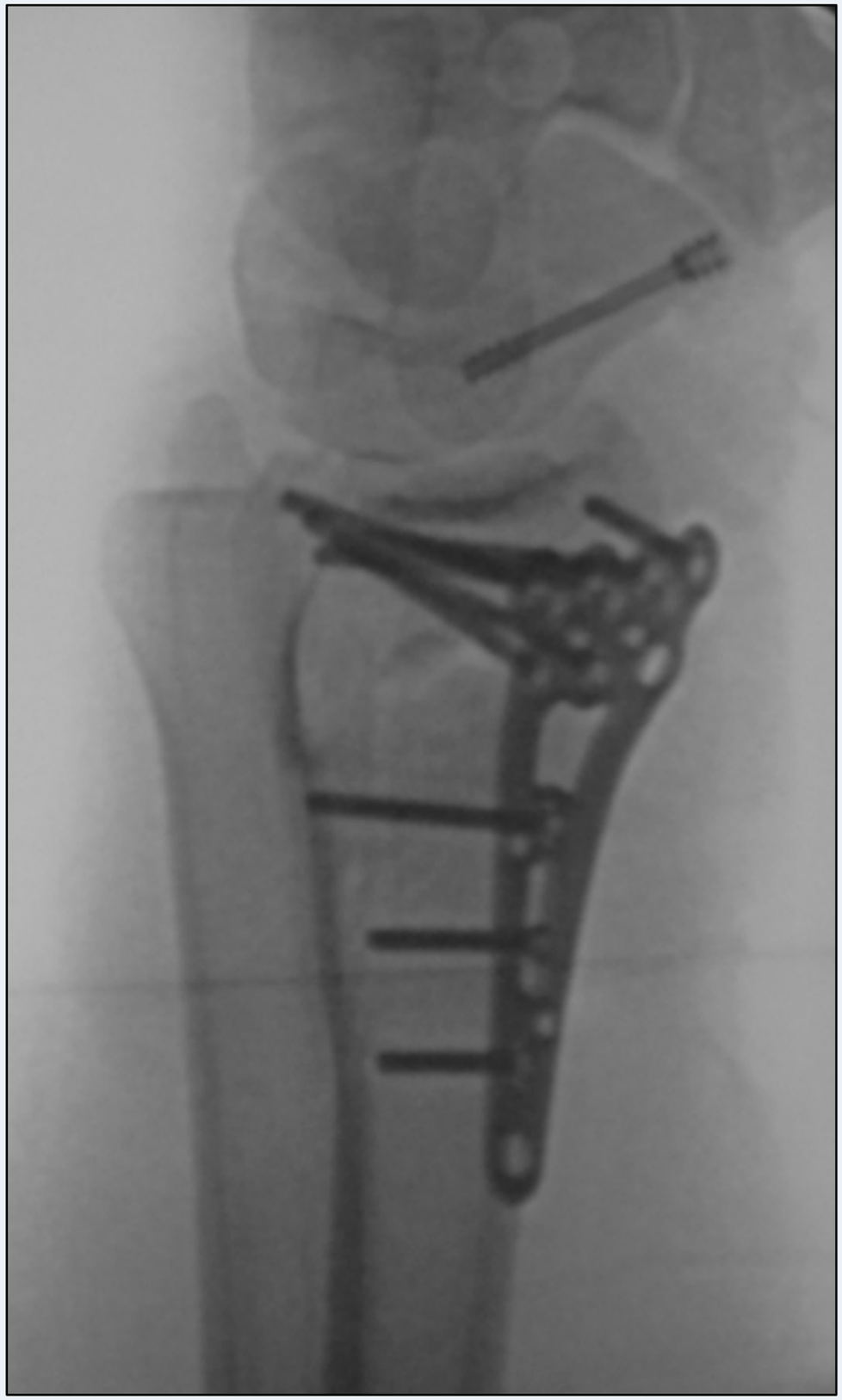


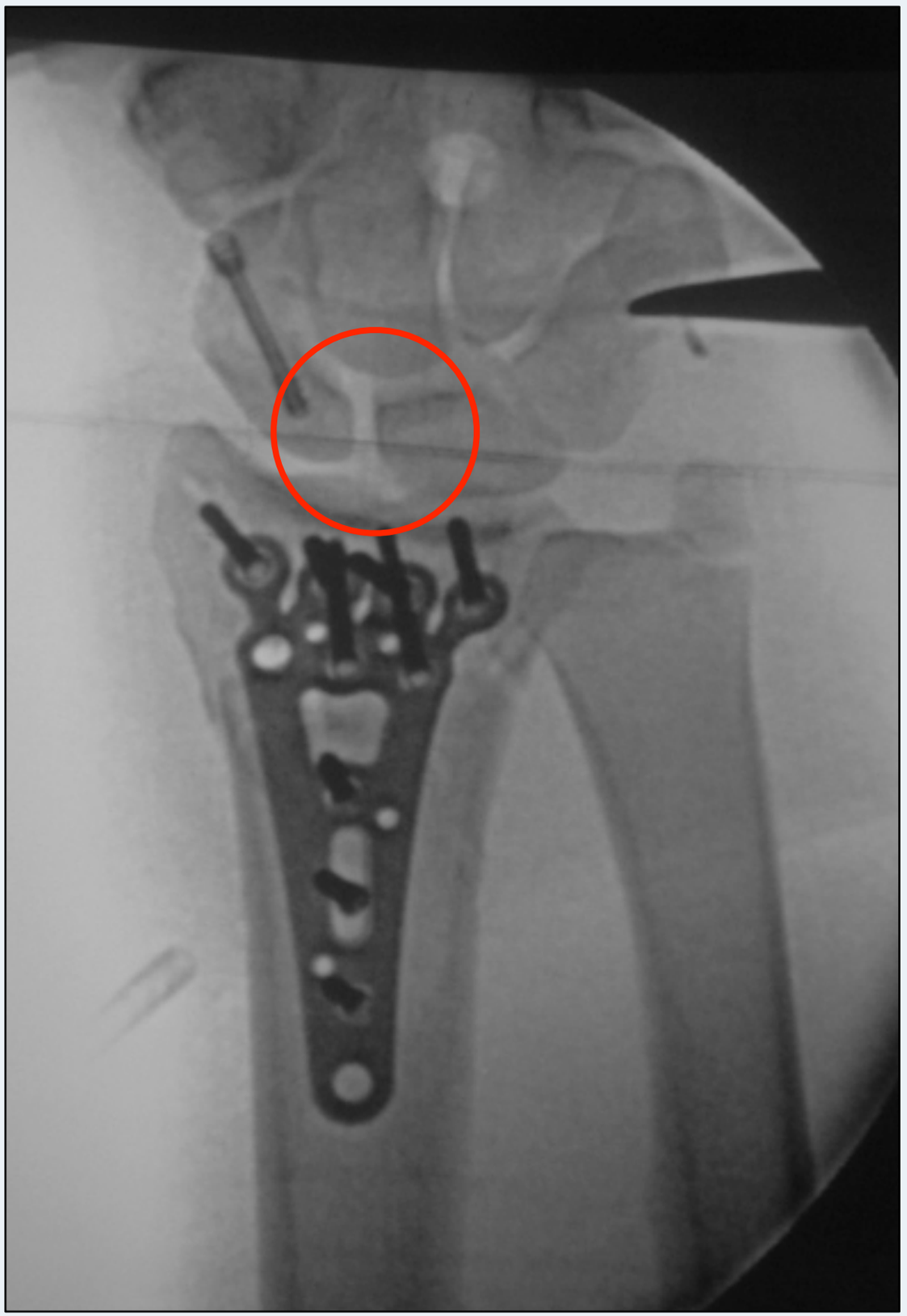
# The Horizontal System stabilizes the wrist in extension !



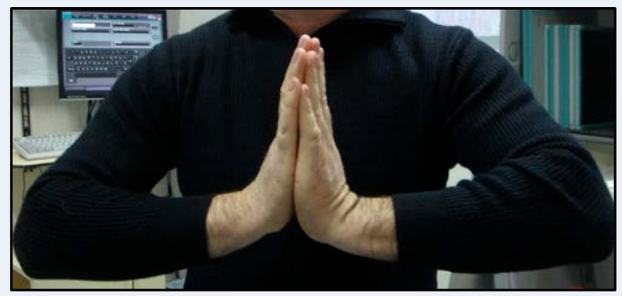
1 SURGEON !





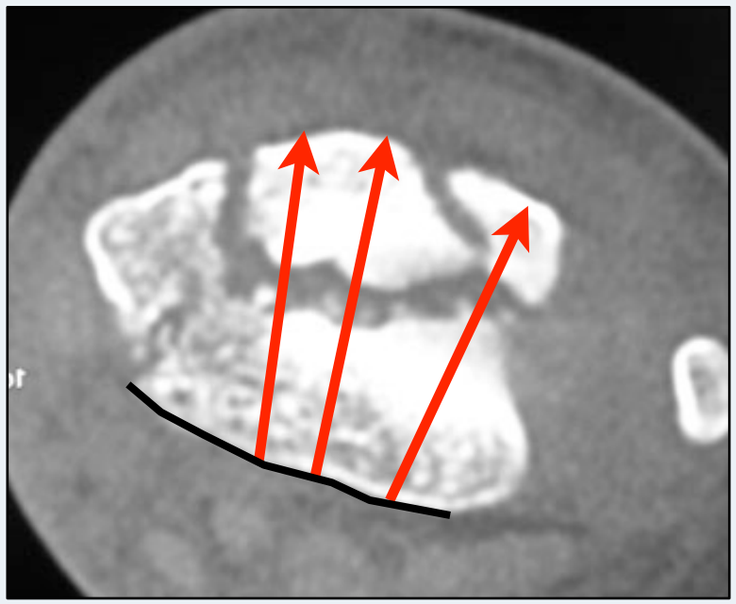
EARLY REHABILITATION ?



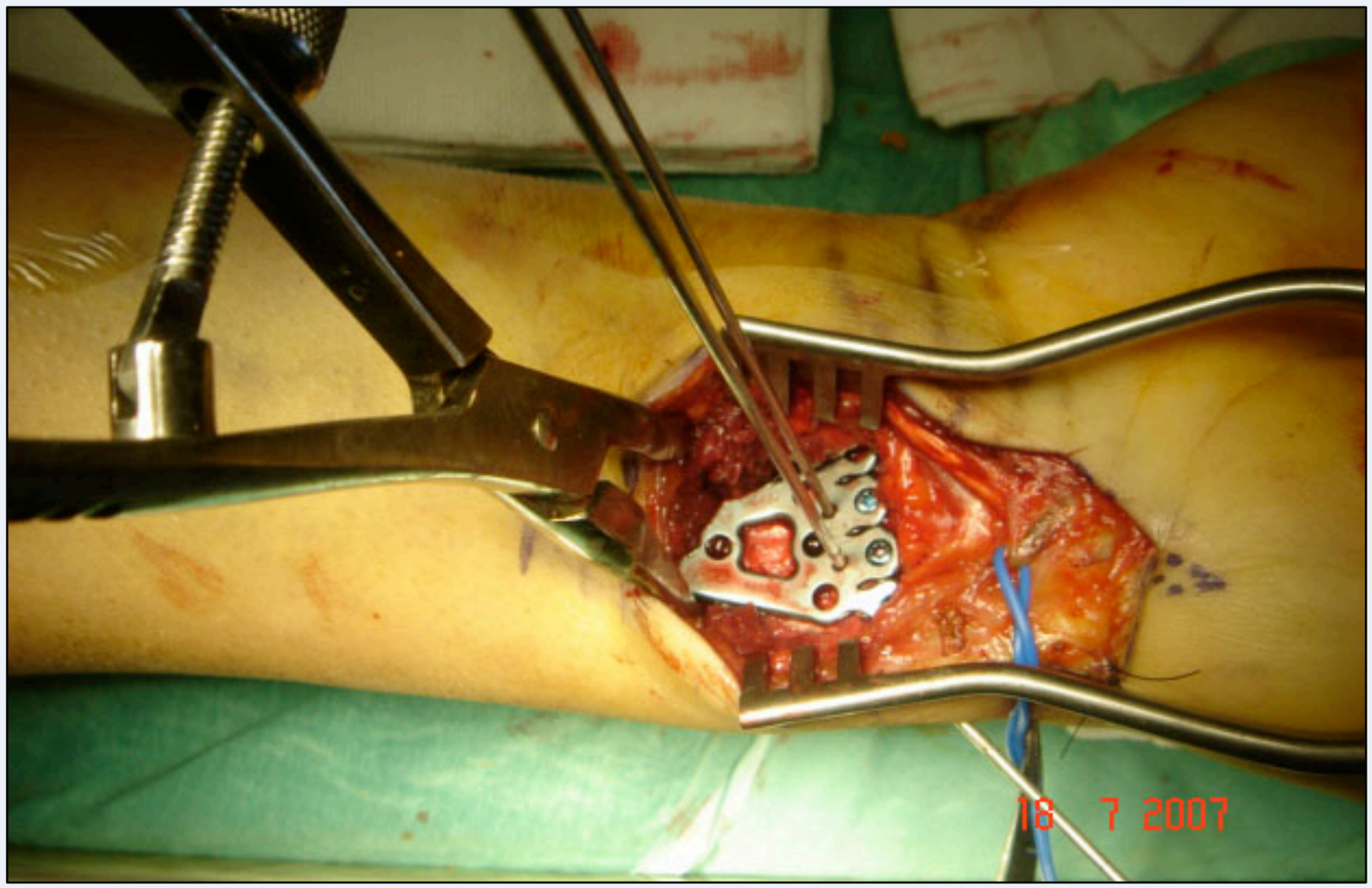
2 months



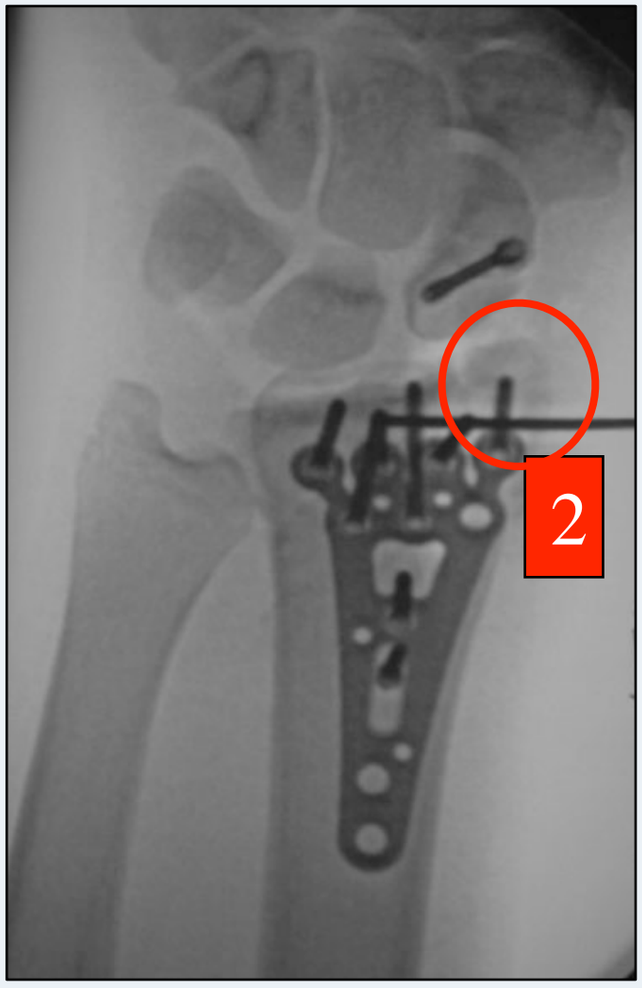
# COMBINED OPEN FIXATION ?
# ARS ASSISTED FIXATION ?



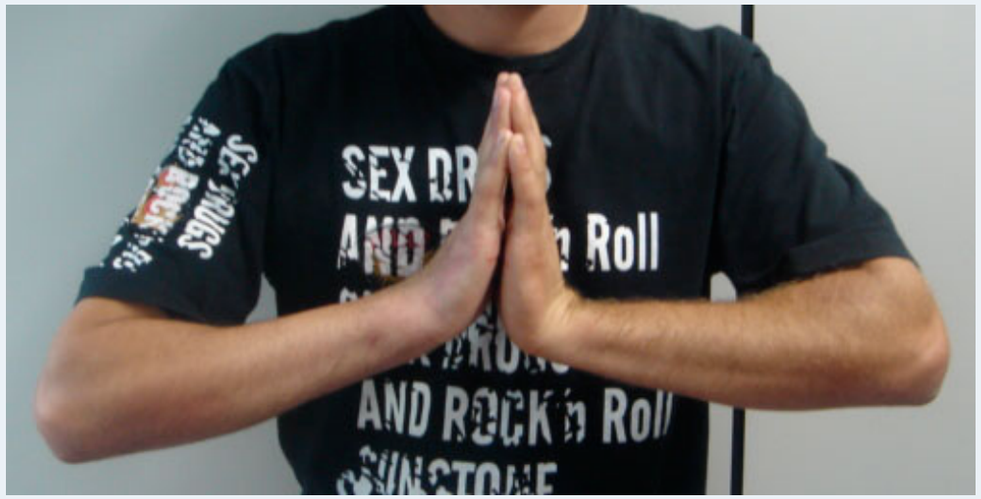
Volar approach

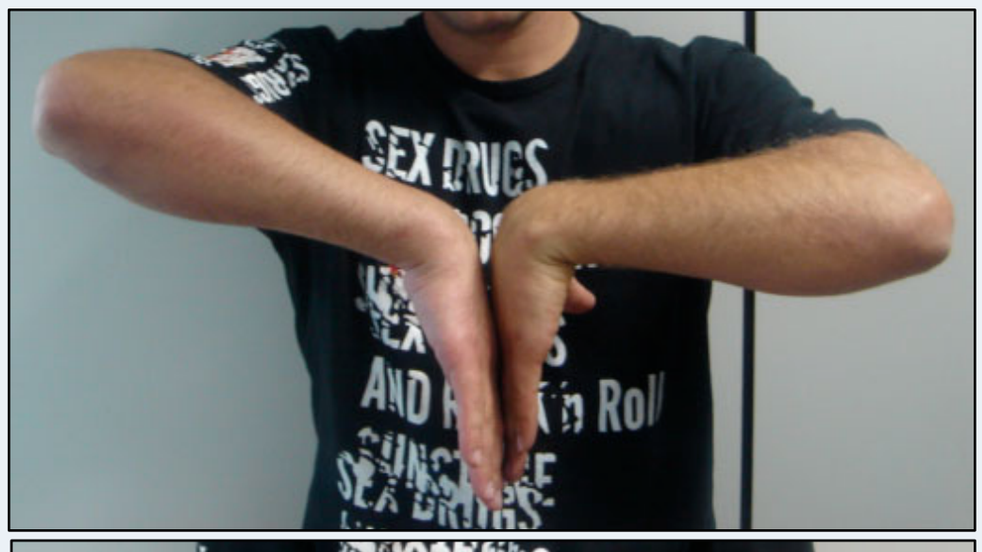

18 7 2007

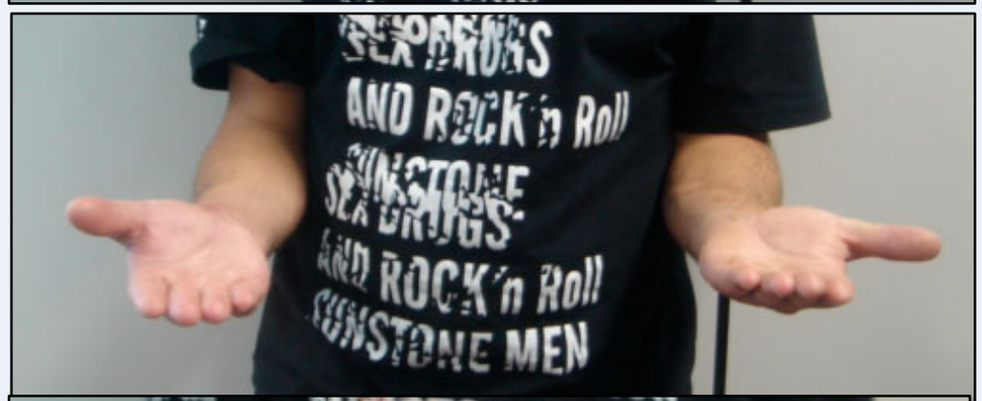
2 SURGEONS !


ARTHROSCOPIC ASSISTED RADIAL STYLOID FIXATION !







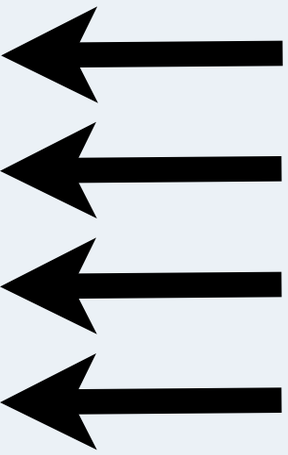
5 WEEKS → BACK TO WORK !

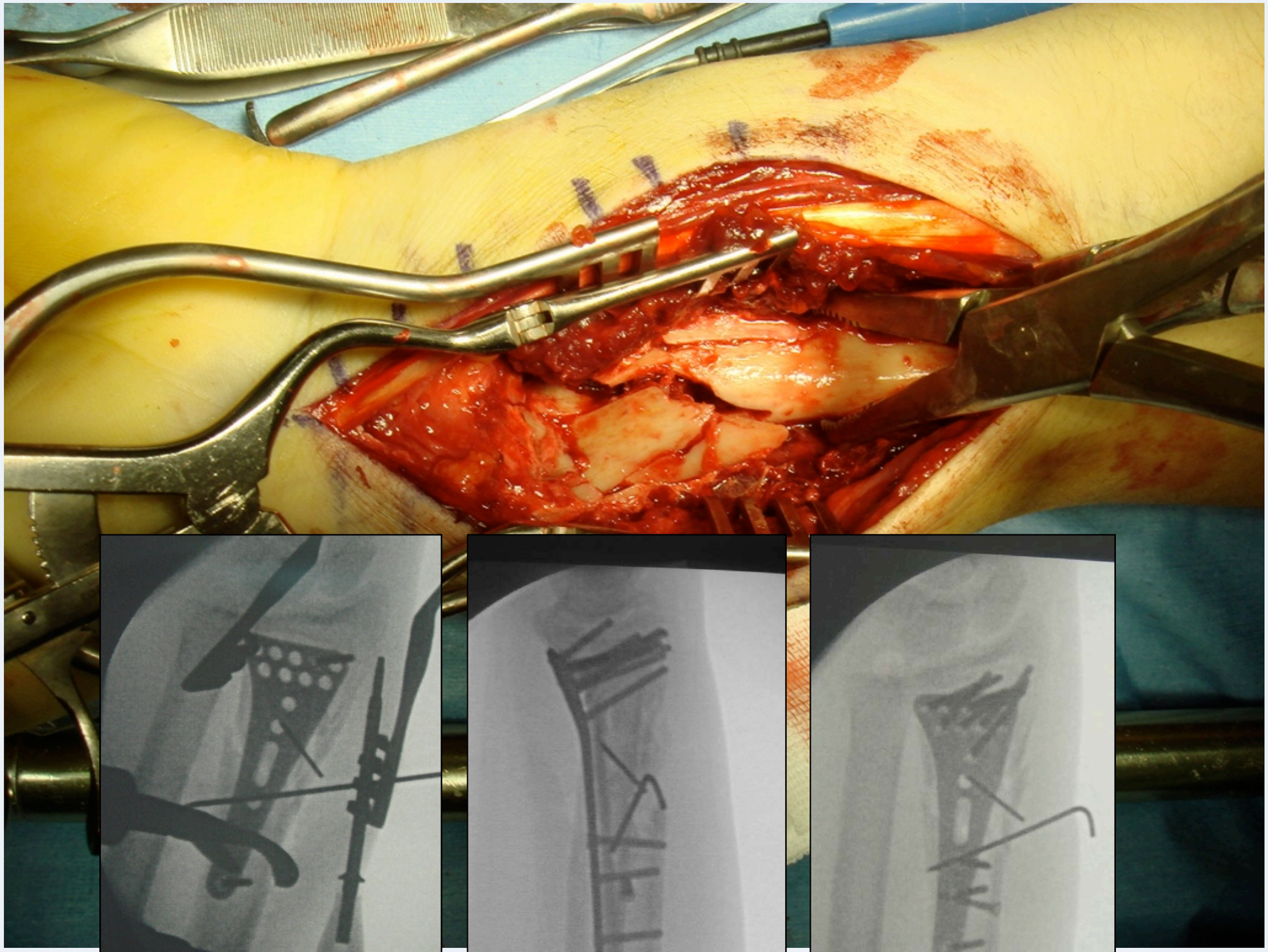
# COMMINUTED METAPHYSEAL FRACTURE

DRUJ INSTABILITY !

Horizontal traction get easier reduction !

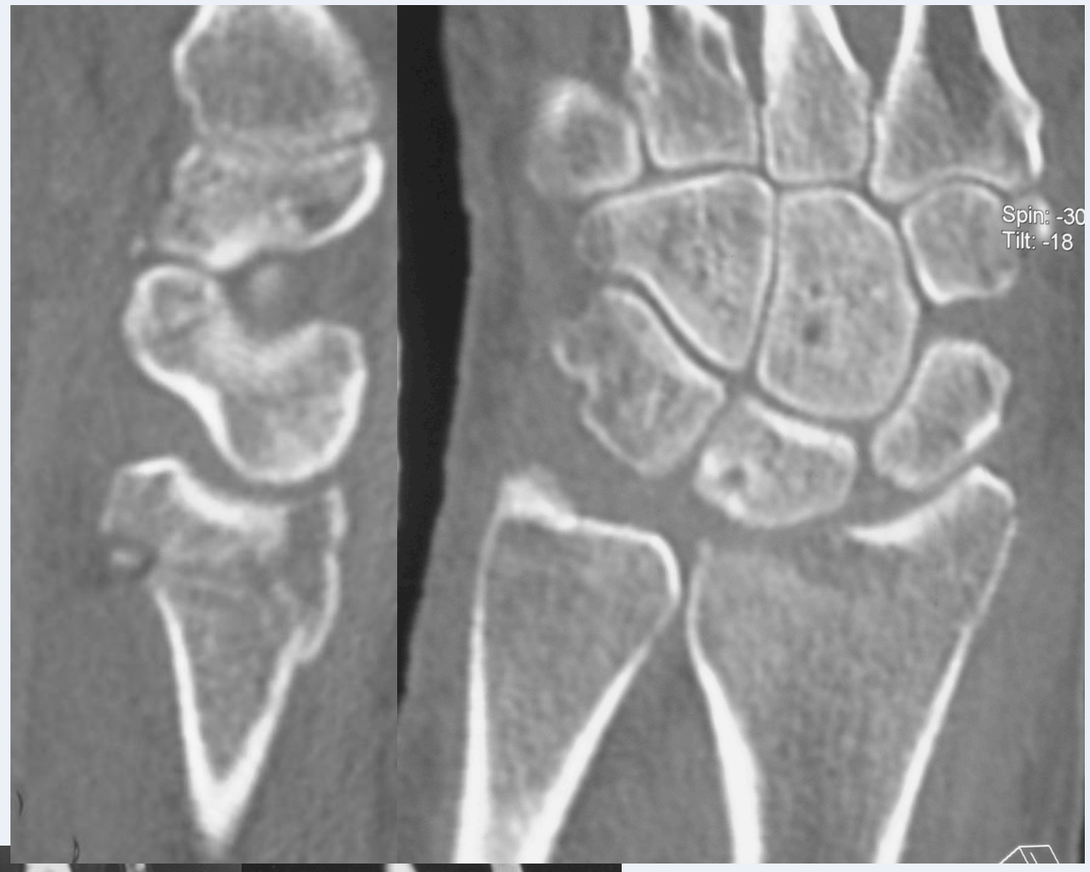
1 SURGEON !



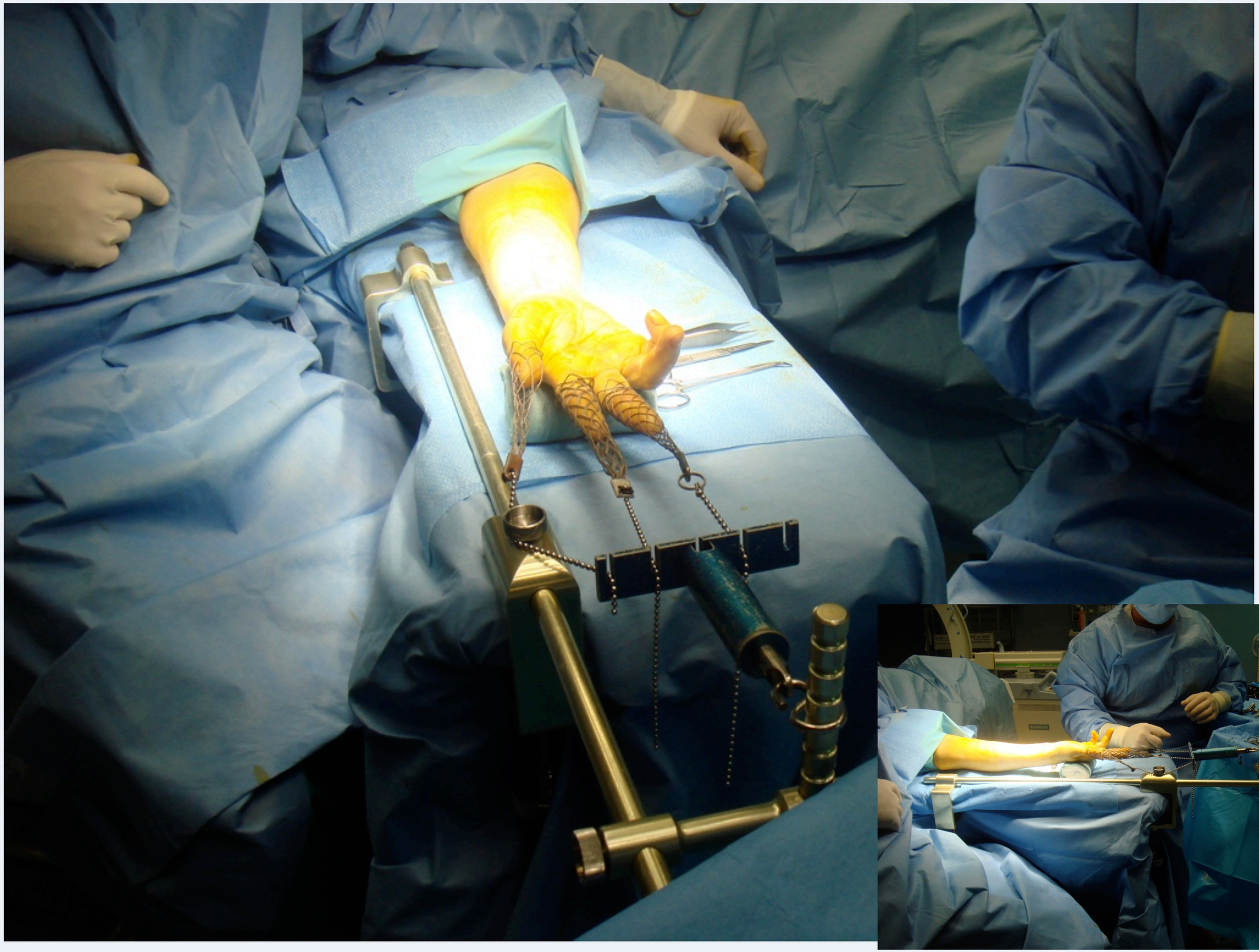


# COMBINED APPROACH

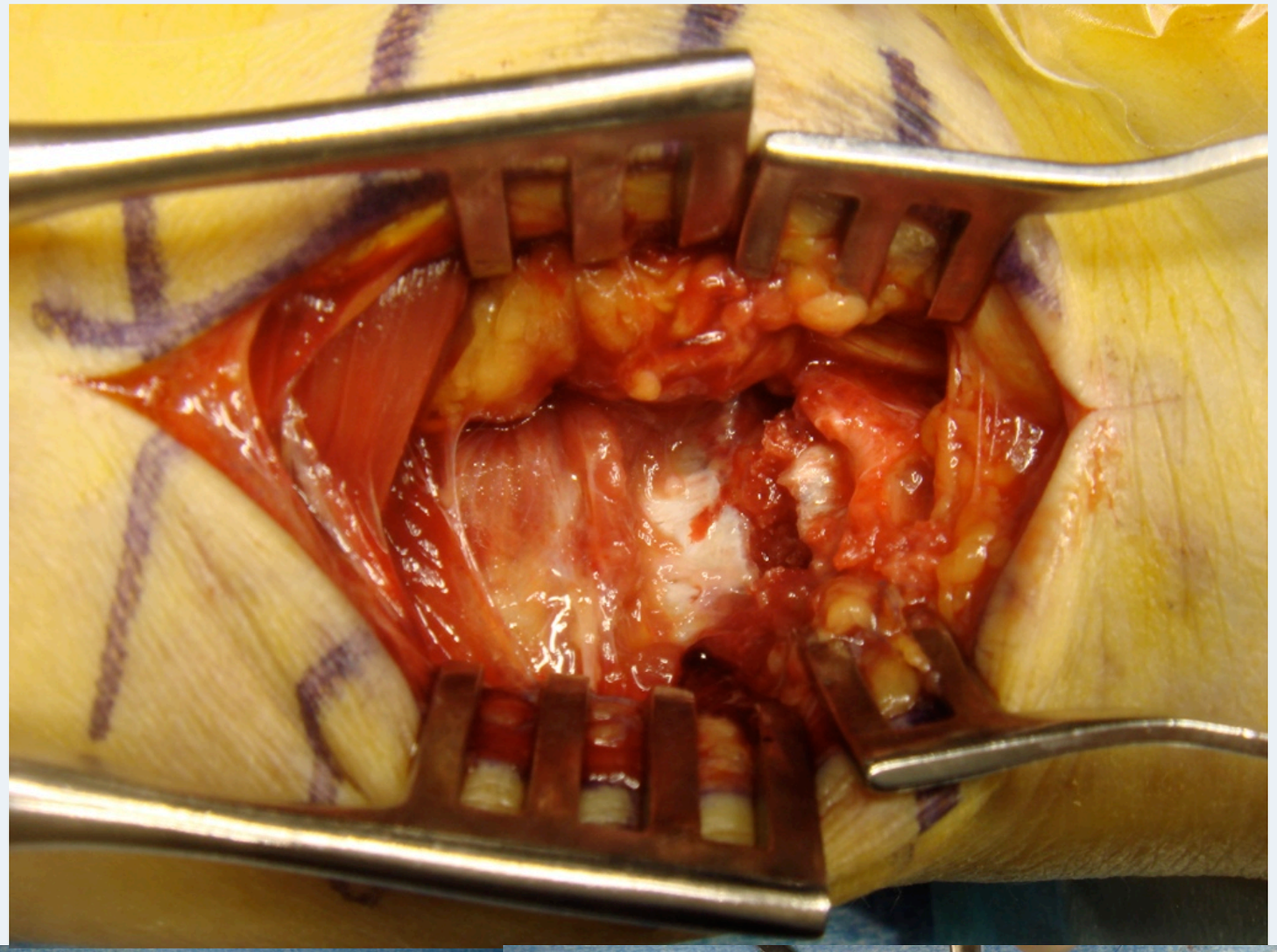
# even in elder patients when nedeed !
# 75 yo women

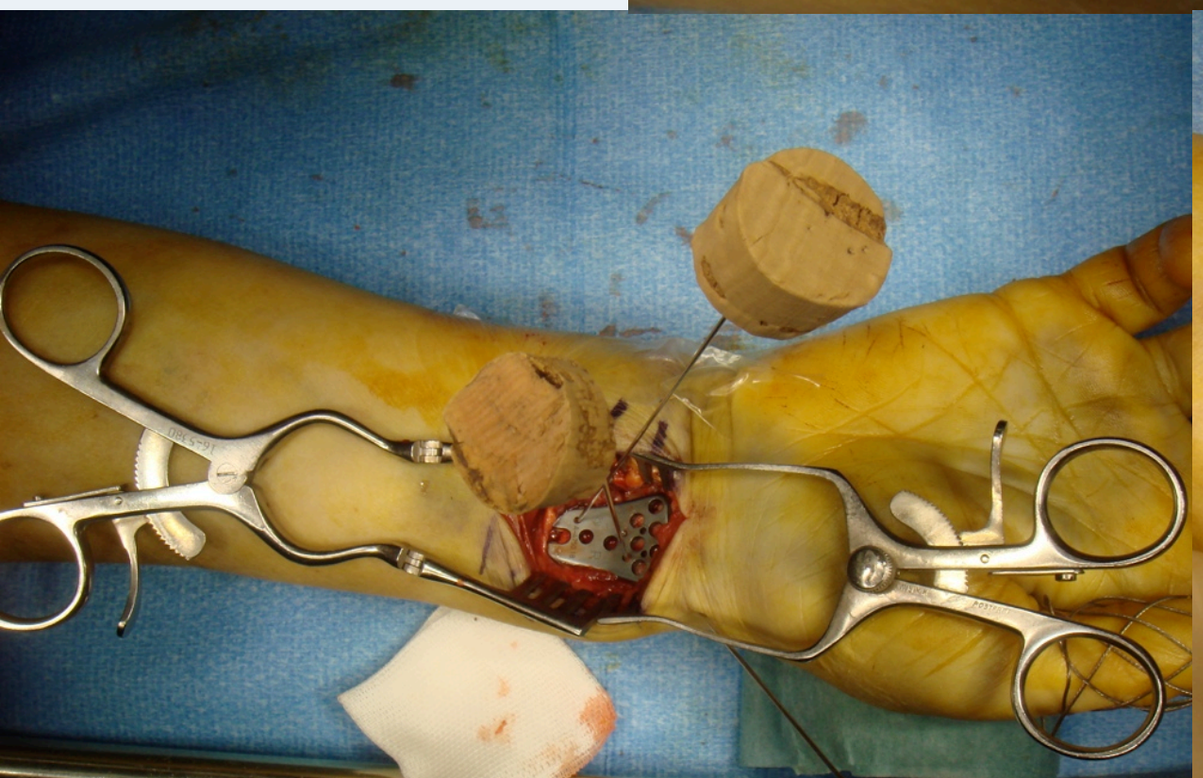



# Volar Plate placement is the first step !

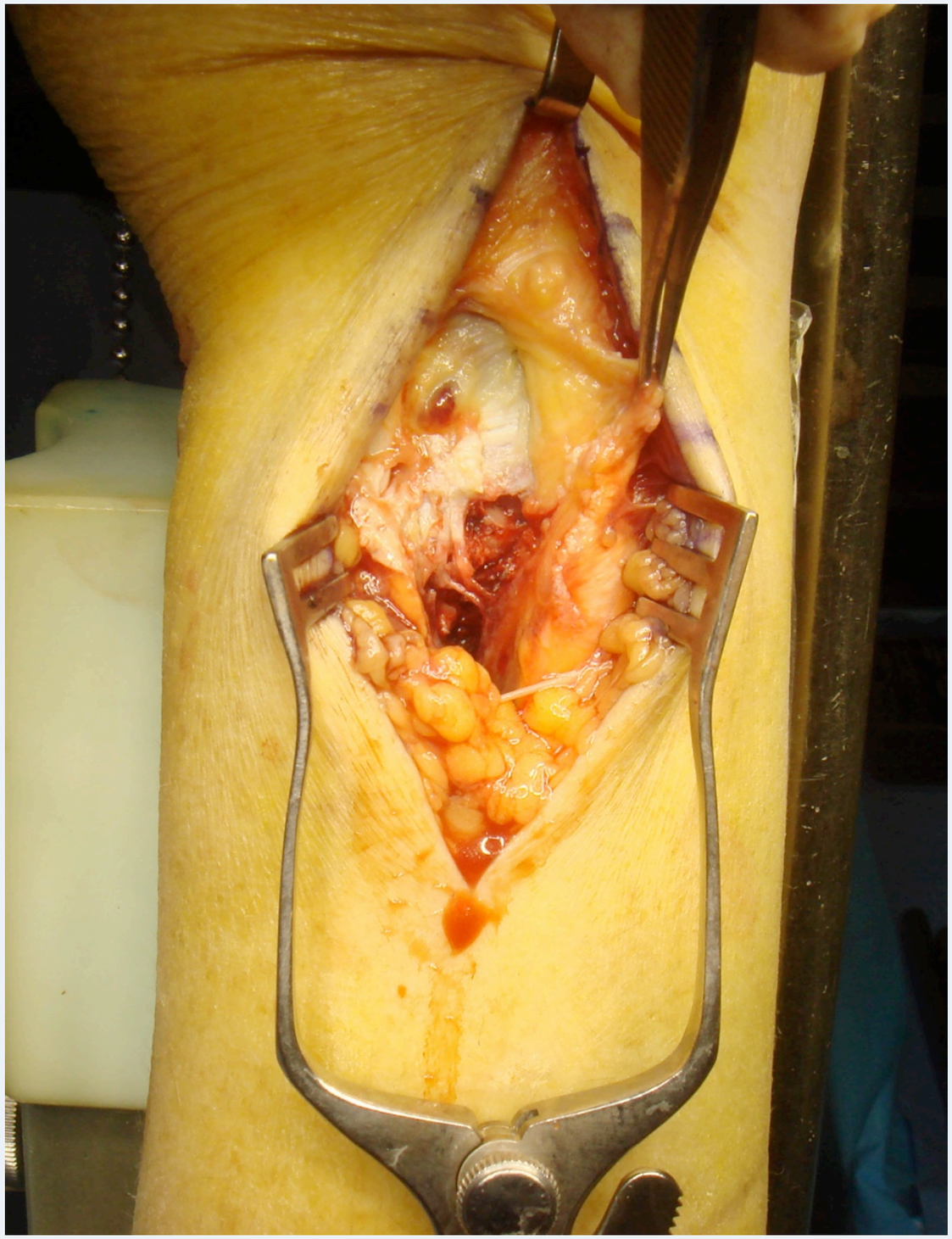


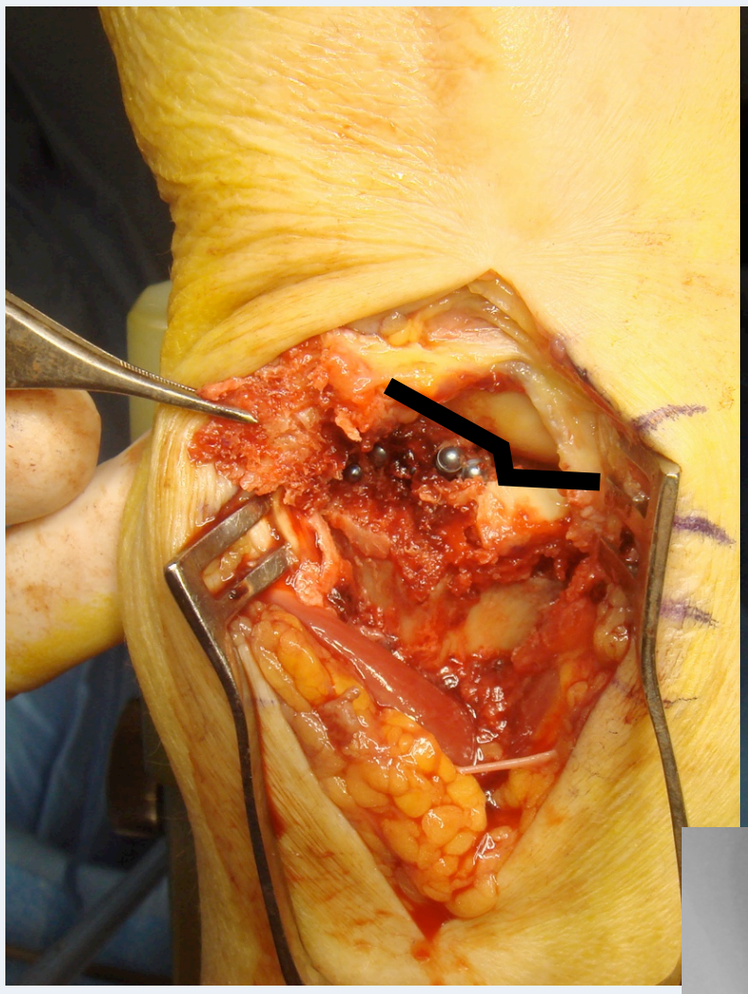
Wrist in Horizontal position: temporary plate fixation, 1st step !

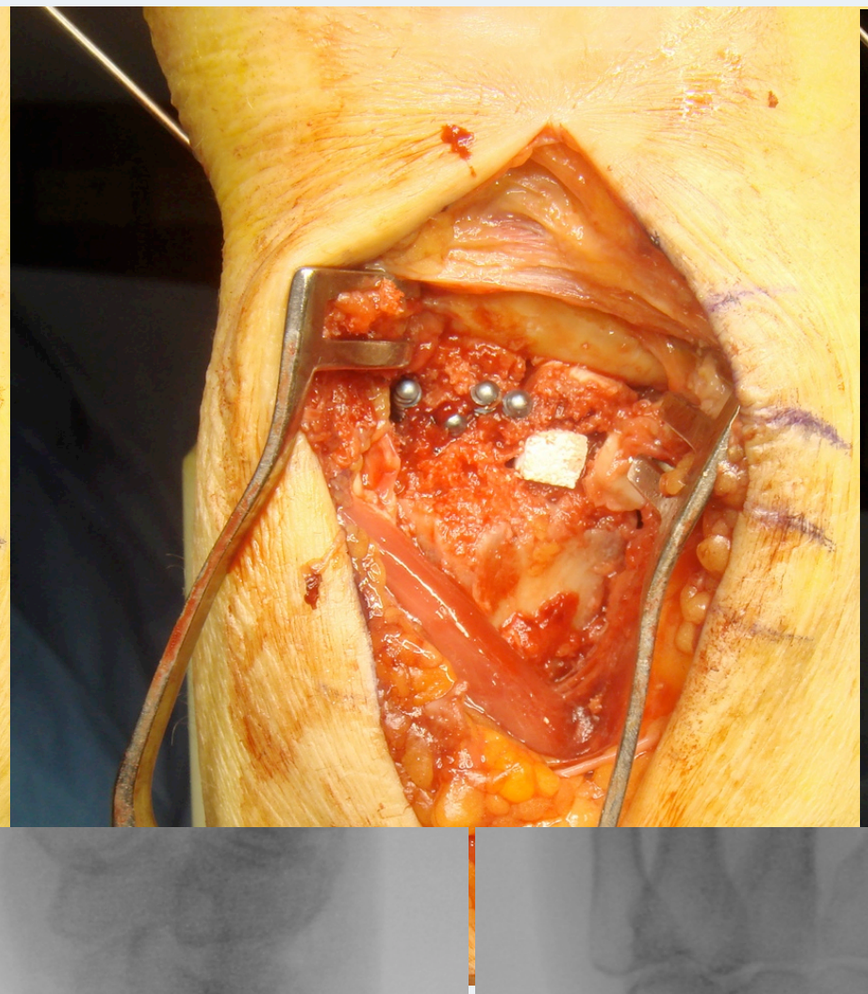


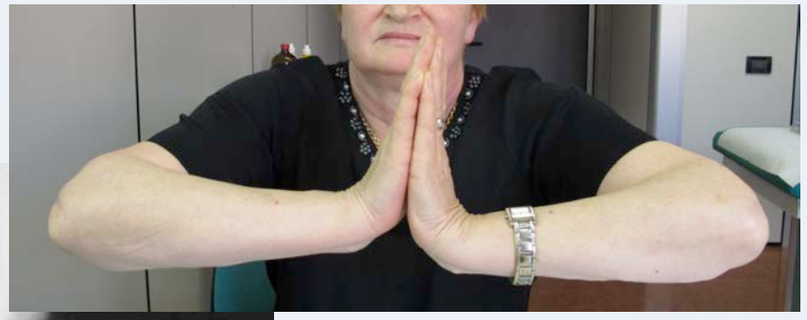


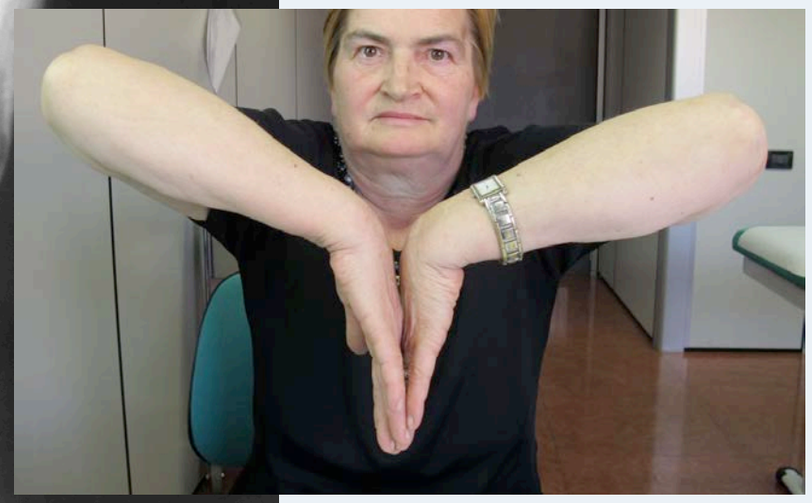
Wrist in vertical position: 2nd step !









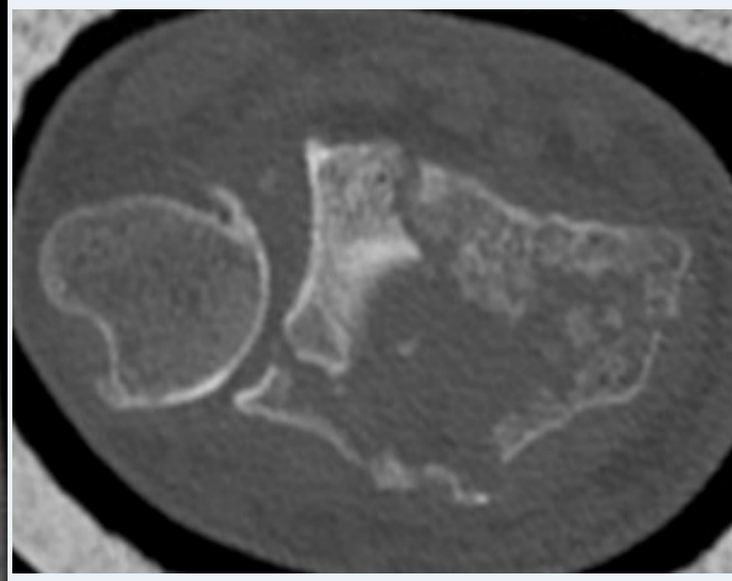


# DORSAL APPROACH

# Can this fracture be managed through a single DORSAL APPROACH ??

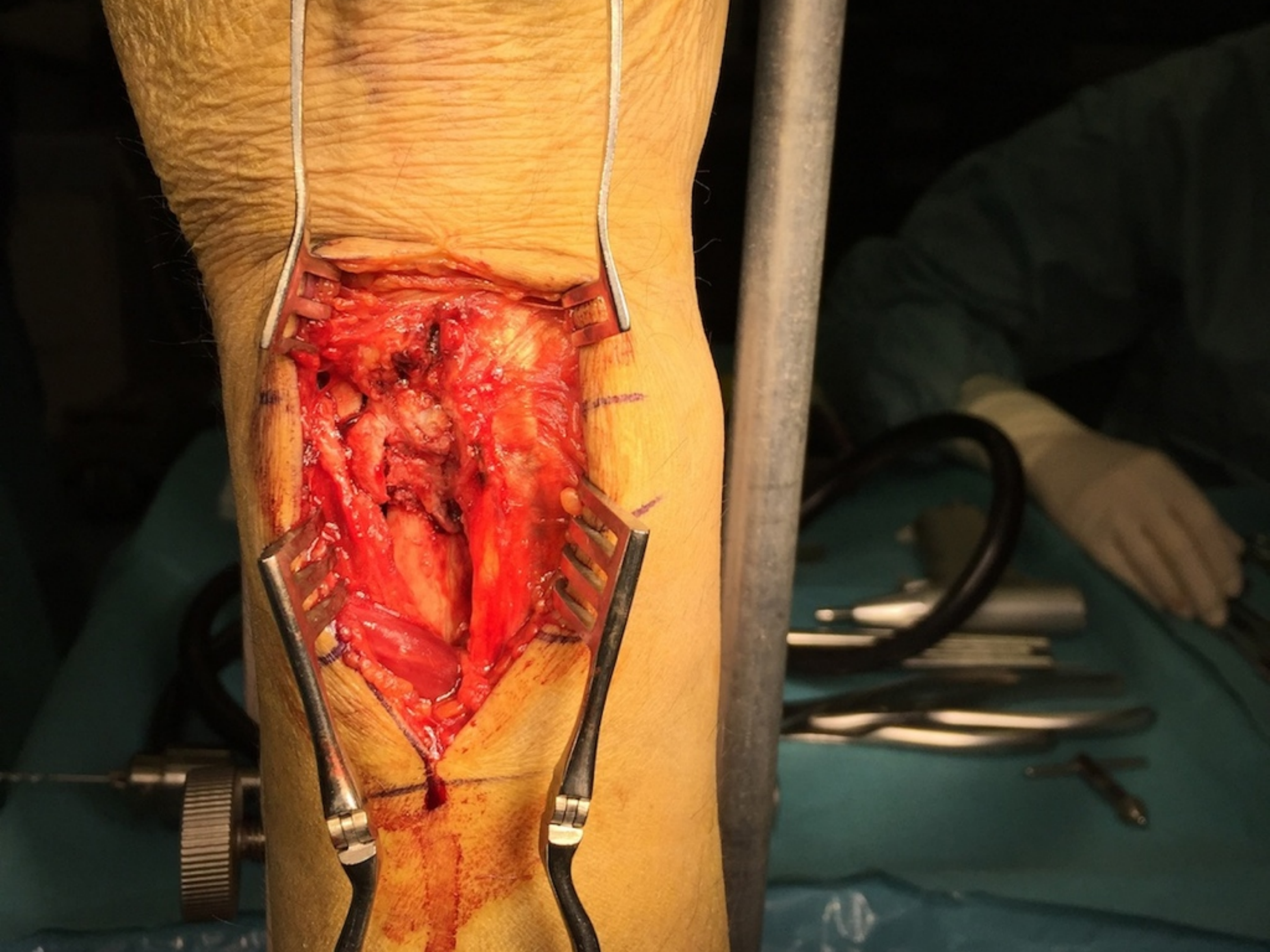
50 yo, dominant hand

# PALMAR APPROACH ??



Dorsal Approach !

I Surgeon !

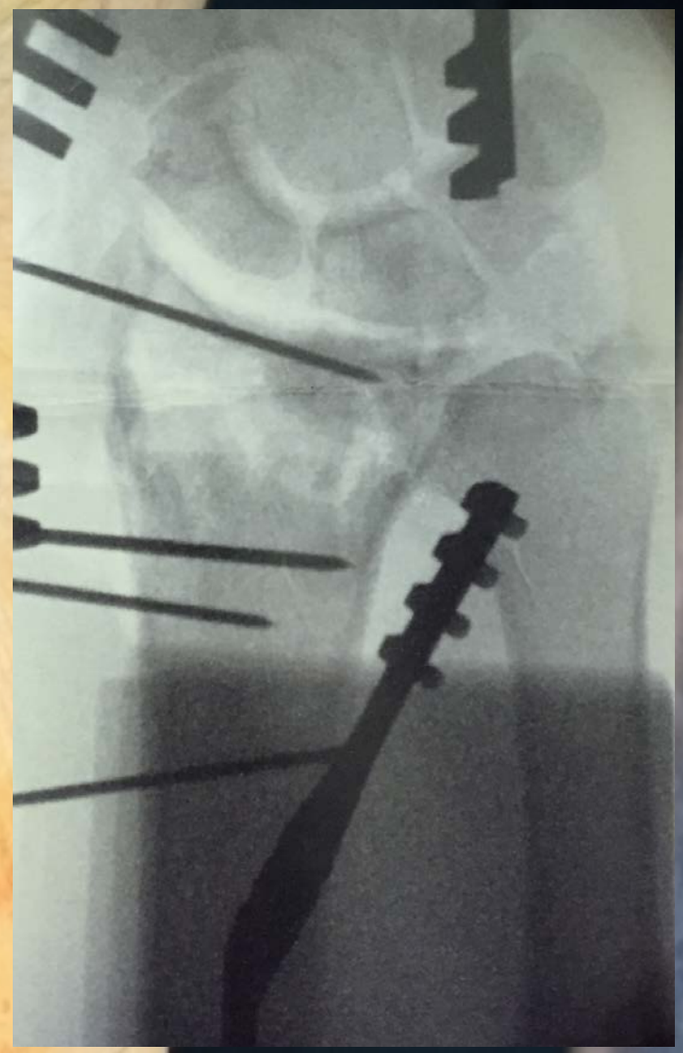


Precise joint surface
anatomic reduction !!

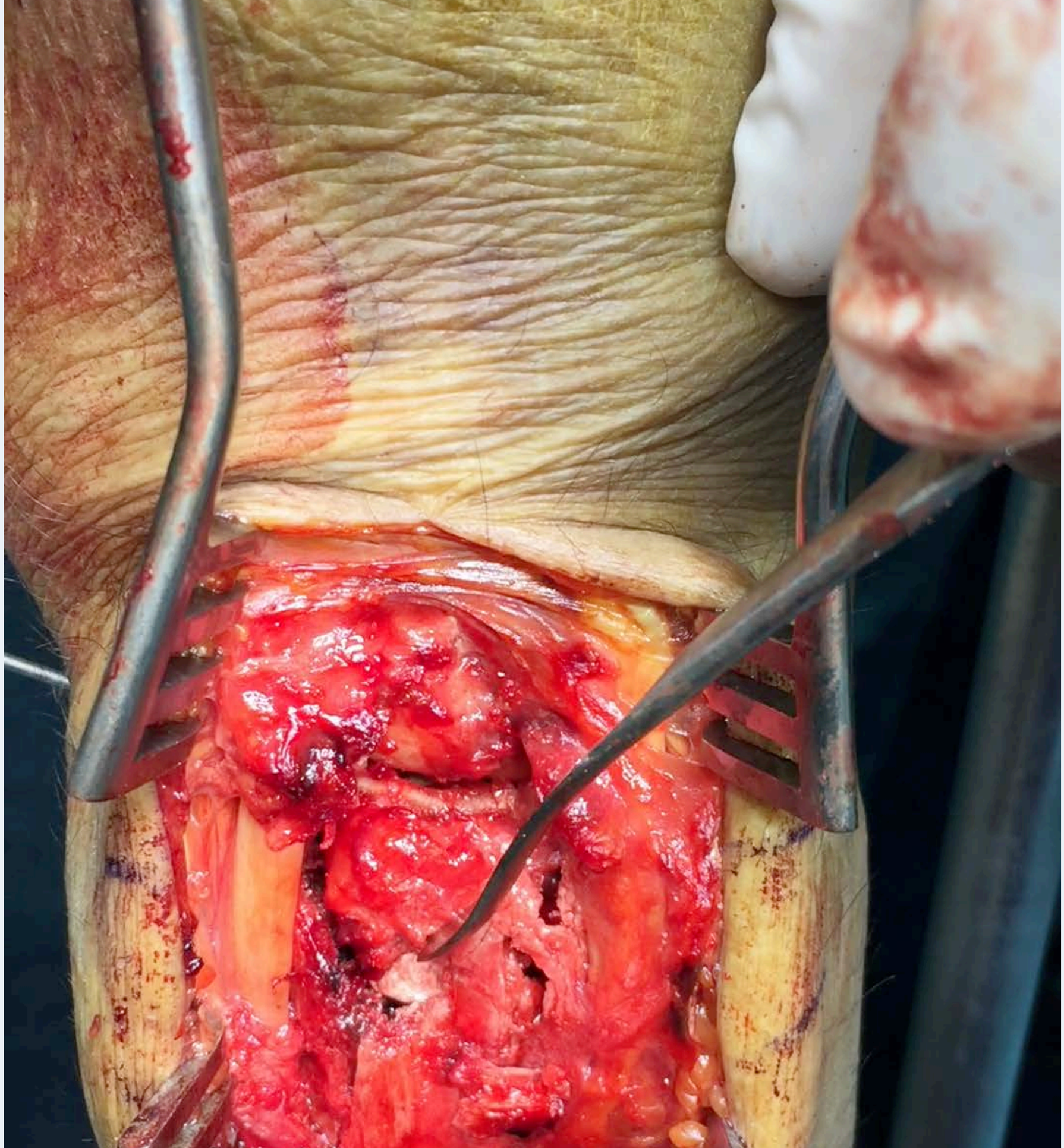
Temporary
K. wires fixation !

Precise joint surface
anatomic reduction !!

Temporary
K. wires fixation !



Structural bone graft
( syntetic, iliac crest ? )
to fill the gap!




Precise joint surface
anatomic reduction !!

Fluoroscopic control
without moving the
wrist !!

# CORONAL VIEW

Fluoroscopic control without moving the wrist !!

# LATERAL VIEW

Testing fixation stability !

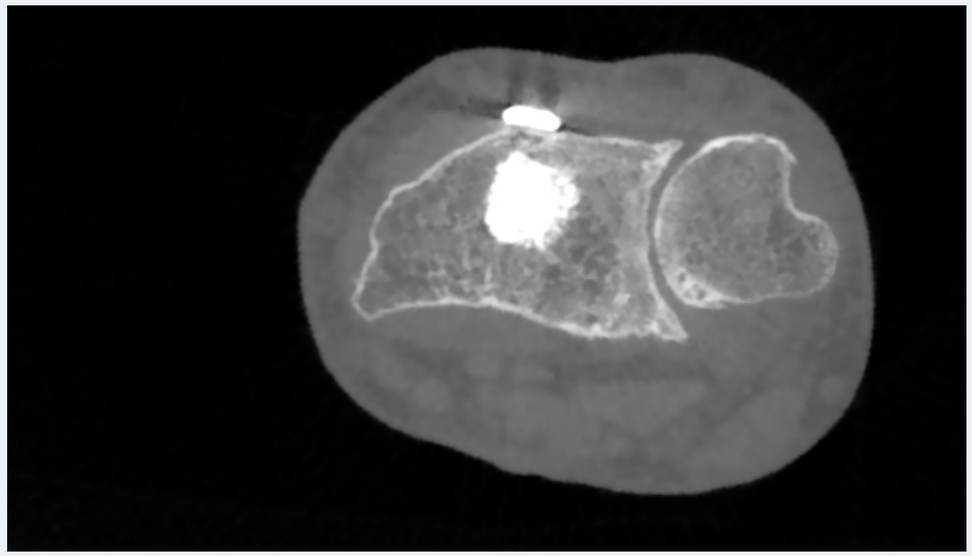

EPL outside the
retinaculum !

1 month post-op !

# 6 months

No Pain !
No signs of tendons irritaion !

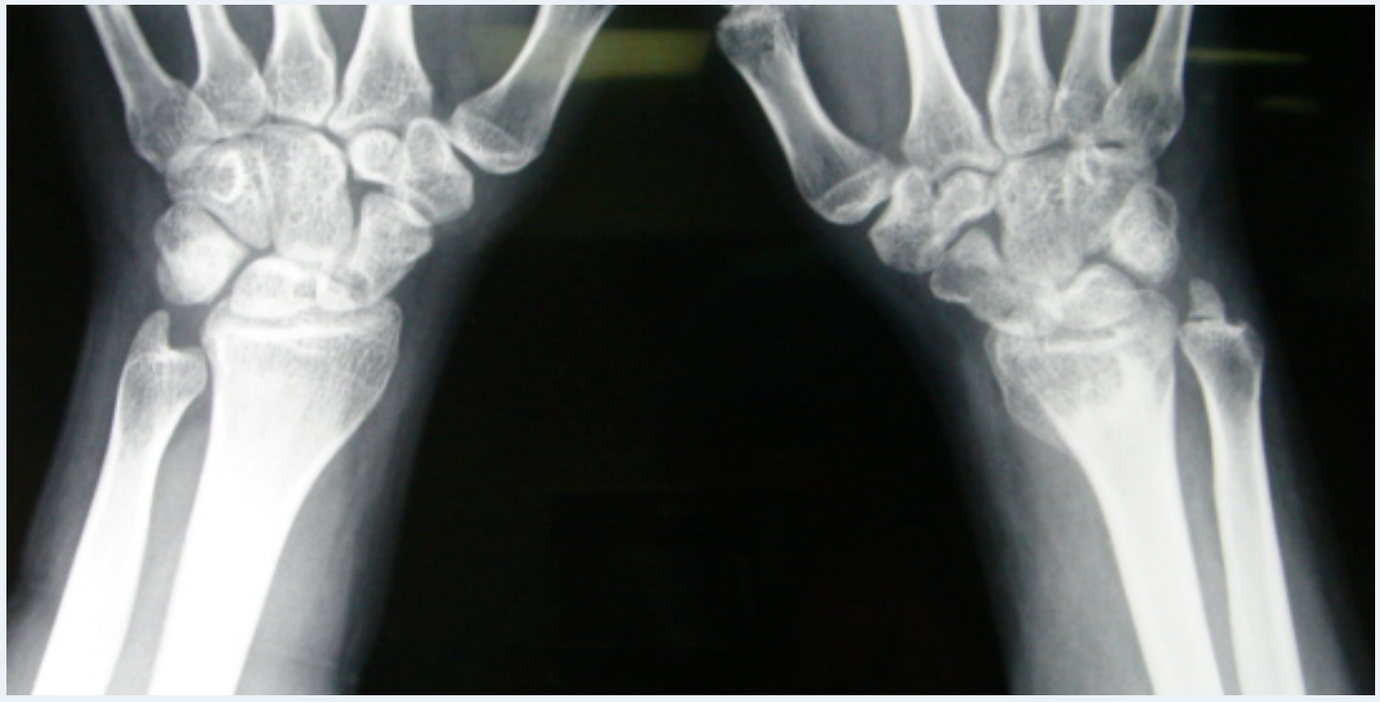
# 2 years



# MALUNION

Herman Krimmer, Pier Paolo Borelli,

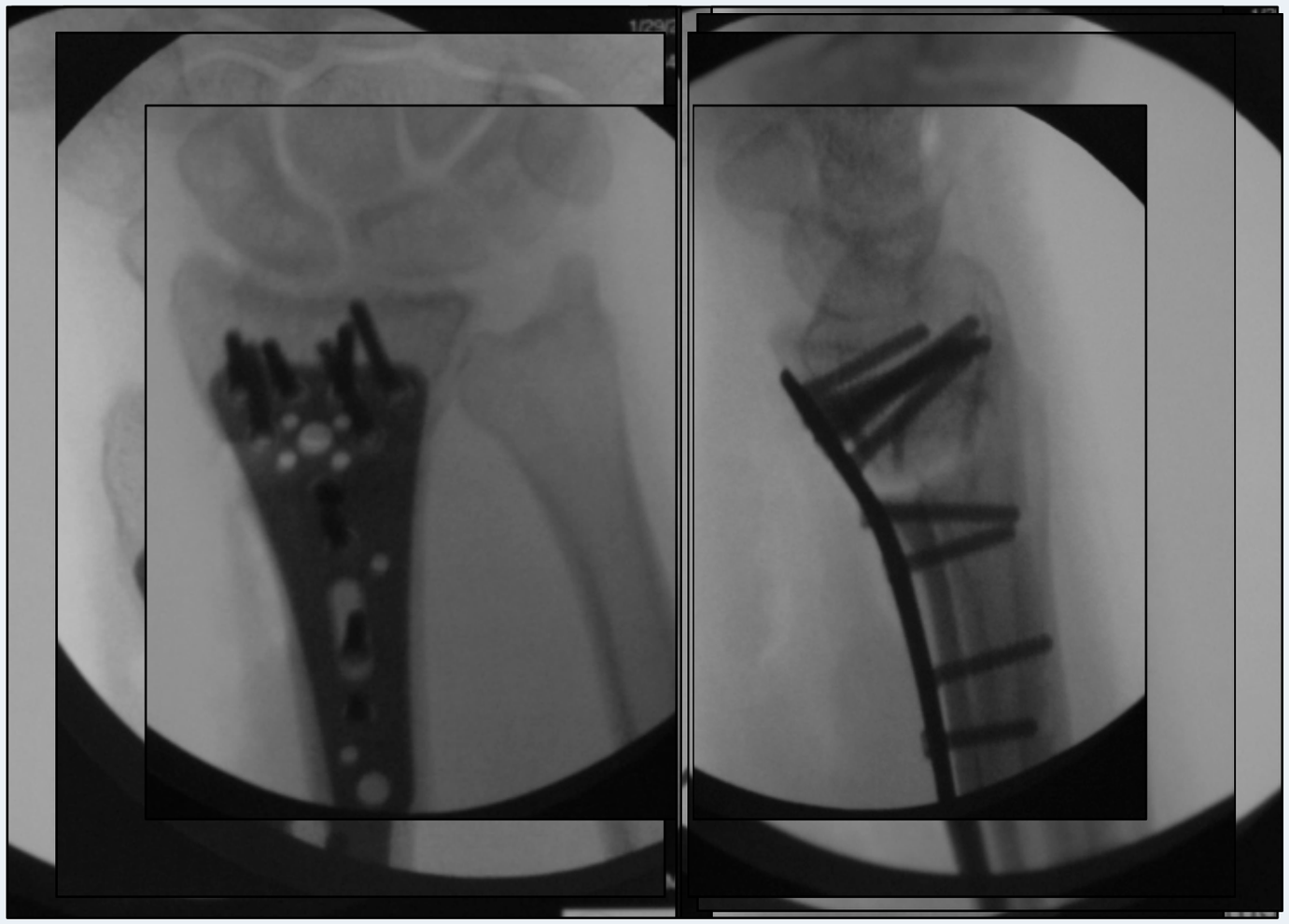
"Live surgery", Multimedica Hospital, Milano,Italy, Jan, 2009.



"MATURE MALUNION "

HORIZONTAL TRACTION for ARTHROSCOPIC EVALUATION !


ML 501
29 1 2009




Visualizzatore immagini
File Modifica Visualizza Guida
C: 2047.0, W: 4096.0
29/01/2009, 18.30.41
D1
C: 1477.0, W: 3946.0
29/01/2009, 18.31.17
D2
C: 1937.0, W: 4096.0
06/02/2009, 16.58.18
C1
C: 1837.0, W: 4046.0
06/02/2009, 16.58.54
C2
Start
Documento1 - Microsoft ...
PACS Gateway - Microso...
Visualizzatore immag...
IT
14.52

2 months

3 months