



Percutaneous screw fixation for carpal scaphoid fractures: clinical results

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Scaphoid fractures

50-80% carpal bone fractures young & active individuals ¹

Fall hand outstretched

Cast treatment :

Reliable

Inexpensive

Low complication rate (85 – 90% union)²

Immobilization 6 to 14 weeks



(1) Acute fractures of the scaphoid bone : Systematic review and meta-analysis, S. Alshryda et al., The Surgeon, 2012

(2) Non operative Compared with operative treatment of acute scaphoid fractures, The Journal of Bone and Joint Surgery, 2008

Scientific debate on the optimal treatment

For acute carpal scaphoid fracture not or minimally displaced
Operative VS conservative treatment
Still **unresolved** issue



Percutaneous screw fixation *versus*

Surg
Minima
Fract

RESEARCH ARTICLE

Comparison of Operative and Non-Operative Treatment of Acute Undisplaced or Minimally-Displaced Scaphoid Fractures: A Meta-Analysis of Randomized Controlled Trials

Acute
oid Waist
lyses of



Longxiang Shen, Jianfei Tang, Congfeng Luo, Xuetao Xie*, Zhiquan An, Changqing Zhang

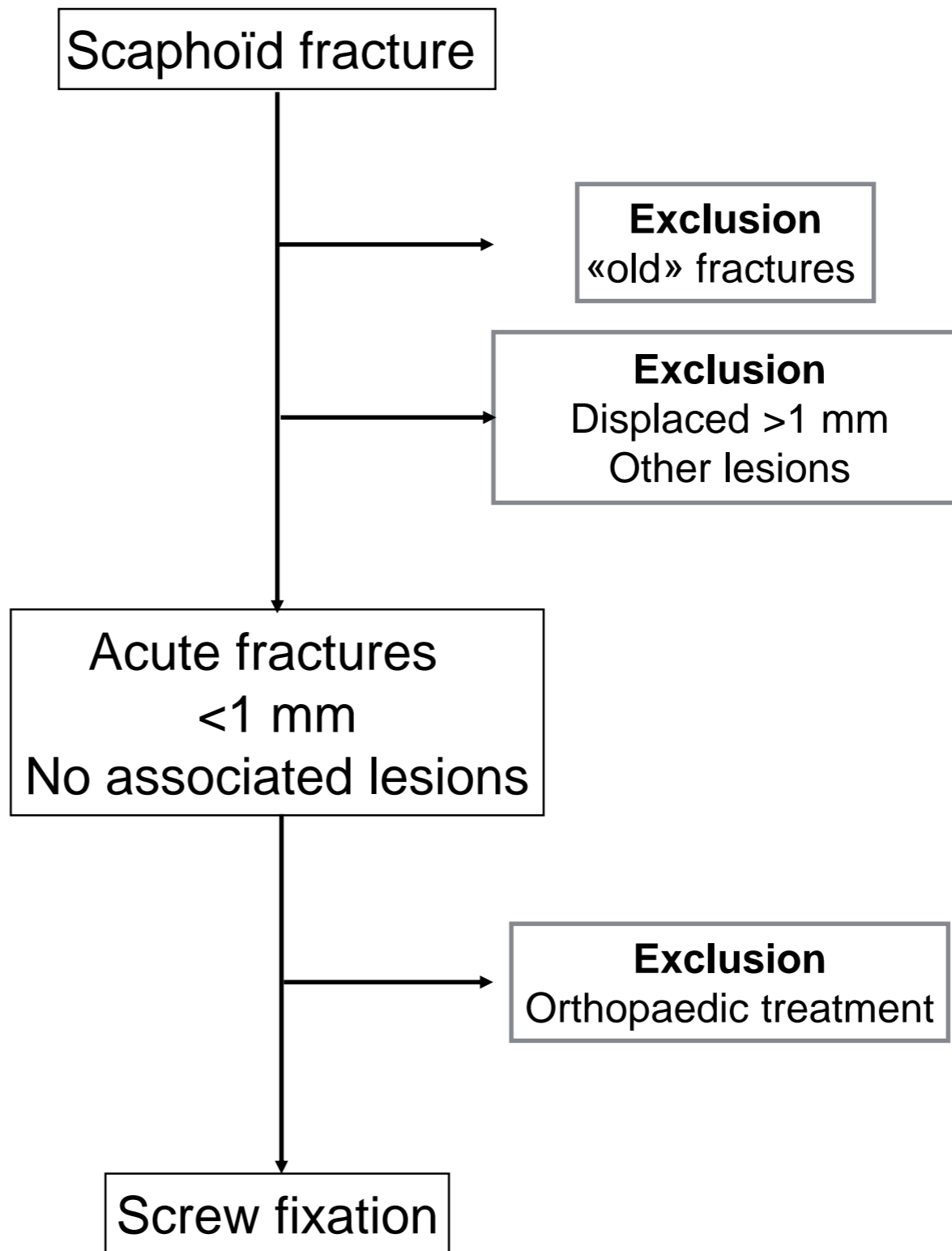
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Talal Ibrahim

seph J. Dias, MD

We recommend that all active patients should be offered percutaneous stabilisation for fractures of the waist of the scaphoid.



Monocentric observational retrospective study

On carpal scaphoïd screw fixation, not or minimally displaced, no associated lesions

- 10 years, 2008 – 2017
- Number of patients included : 155
- Follow-up time : 9 months (mean)



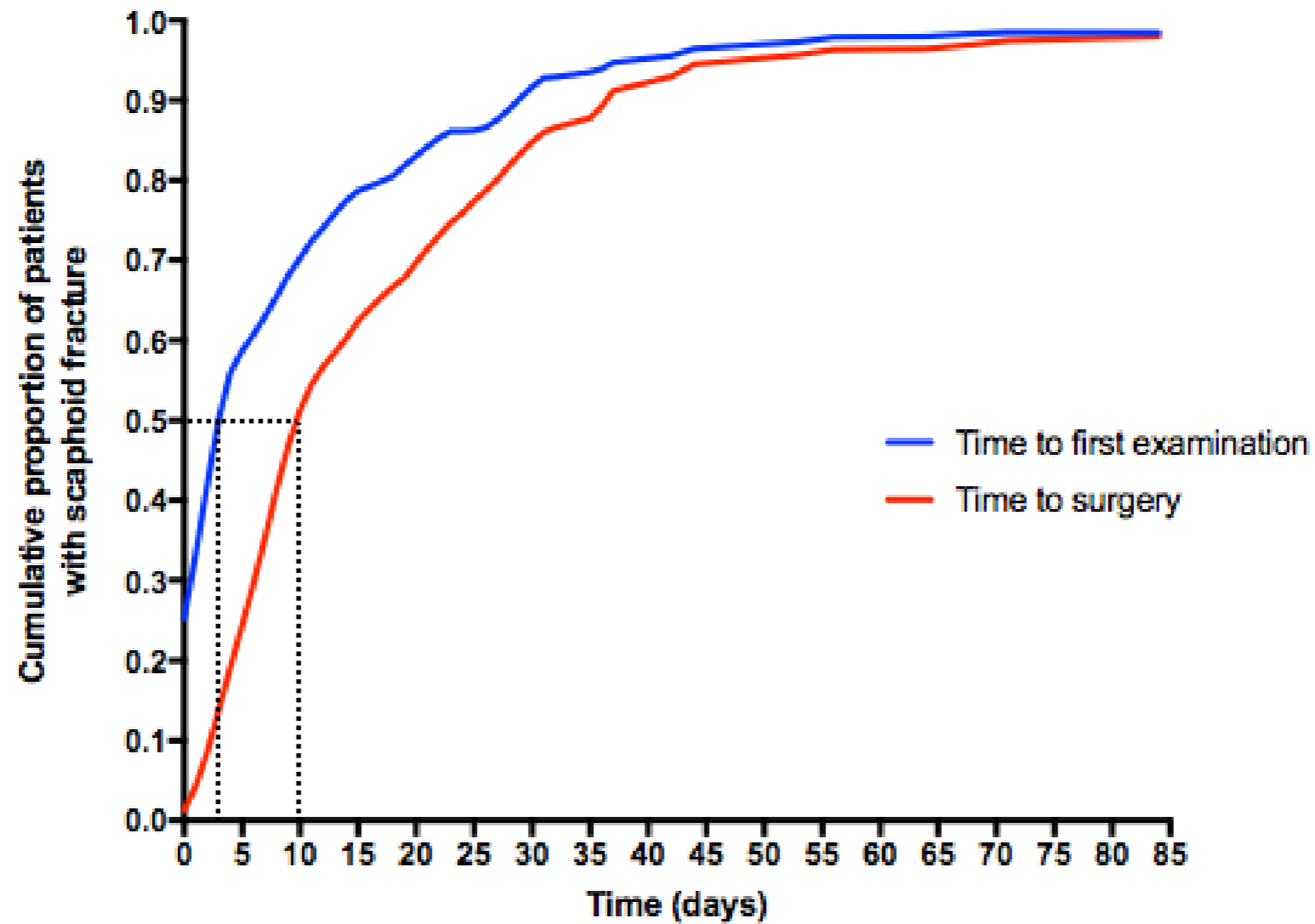
Demographics

	<i>N = 155</i>
Age	28 [22-41.3]
Male gender	84,7 %
Right Handed	95 %
Left trauma	67 % *
Diabete mellitus	1.4 %
Tobacco smoker	15 %

Causes

Fall from heights	26,4%
Fall from a bike	11,8%
Fall from a motorcycle	6,9%
Car accident	2,1 %
Sport trauma	5,6%
Other causes	29,2%
Not available	17,4%

Timing



Time trauma – First consultation (days) : 3 [1-12]

Time trauma – Surgery (days) : 10 [6-24]

Imagery



Rx 32.6%



Rx + Scintigraphie 12,8%

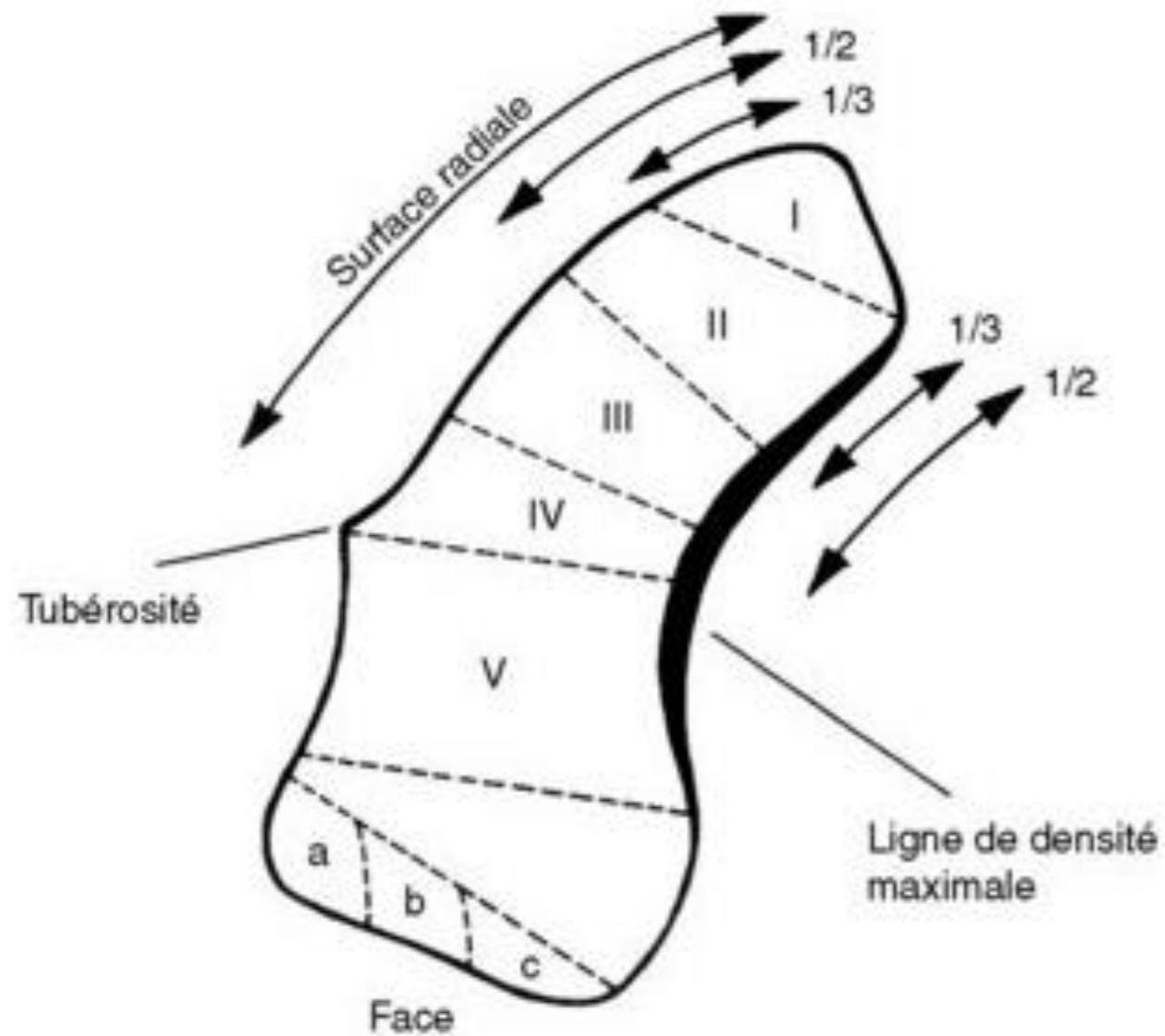


CT 2,1%

Rx + IRM 0.7%

Rx + Scinti + IRM 0.7%

Fracture types – Schernberg classification



III	61,5 %
IV	17,5 %
II	10,9 %
V	4,3 %
VI	4,3 %
I	1 %

Post-operative data

Below-elbow splinting (100%)

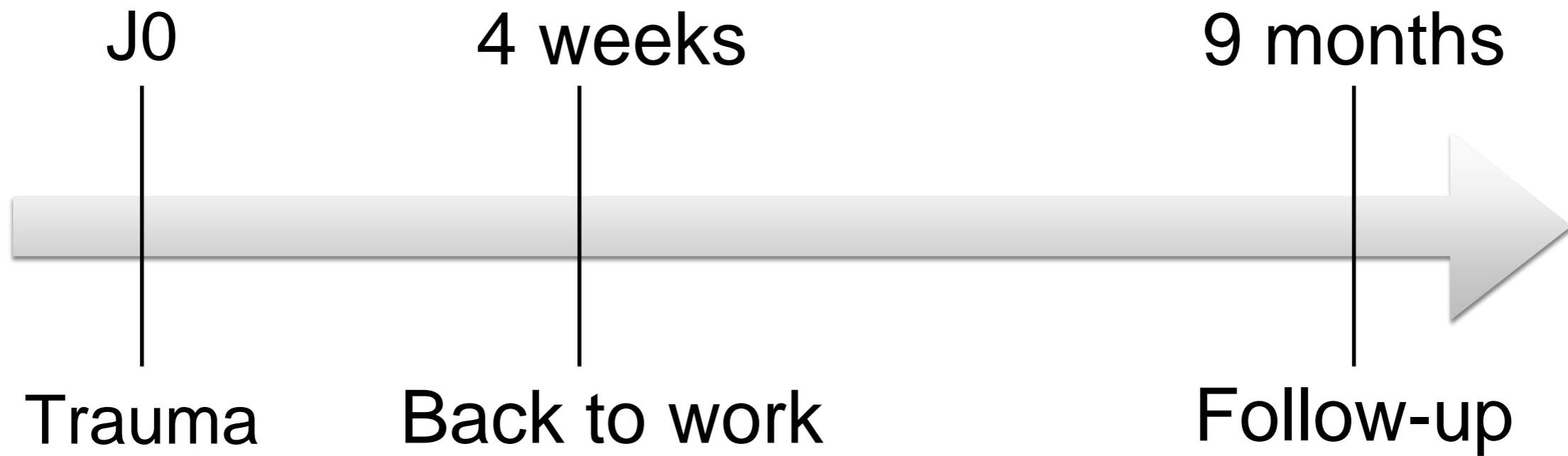
- With thumb (72,2%)

- Without thumb (11,6%)

- Not available (16,1%)

Duration (mean) : 4 weeks

Post-operative results



Union 95,5 %
Pseudarthrosis 4,5%

Post-operative results

90% No pain

Mean flexion : 60°

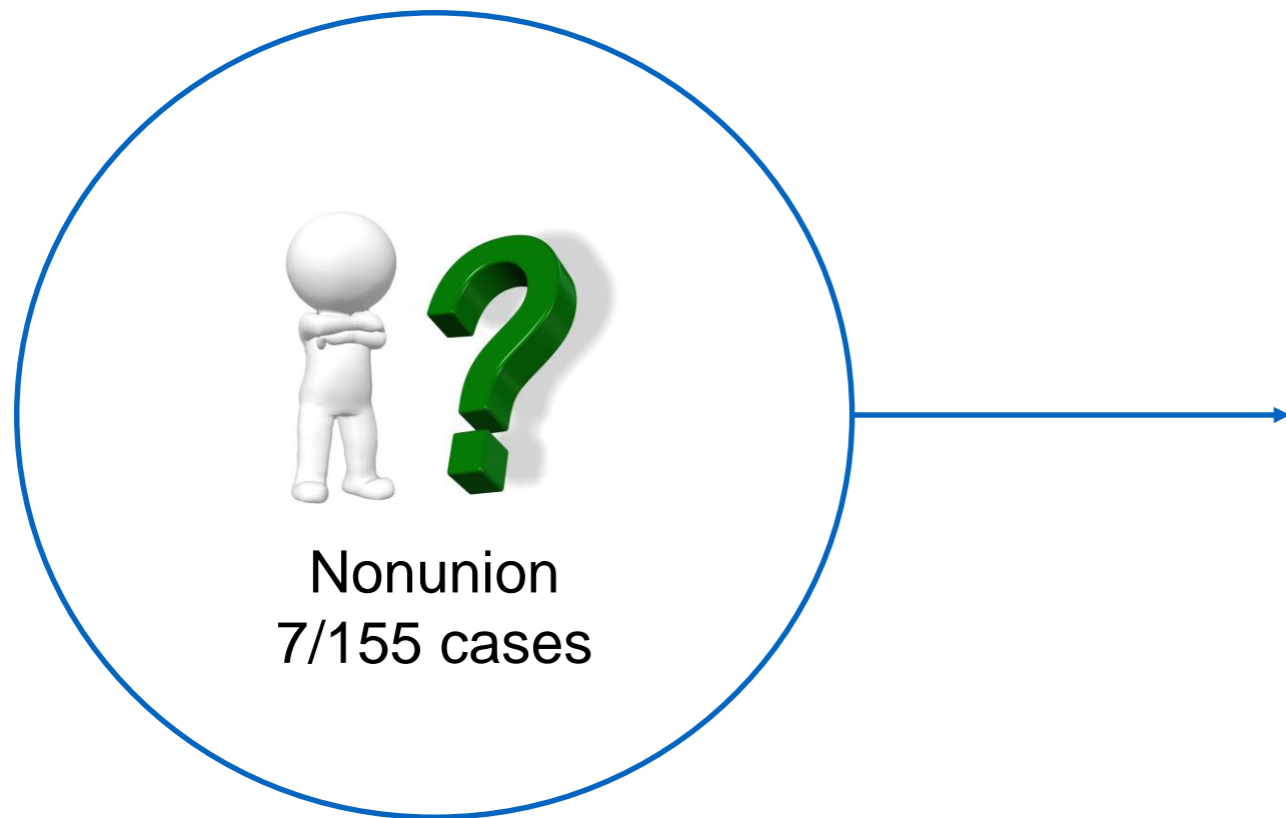
Mean extension : 62°

Strenght injured hand /controlateral : 80 %

Scapholunar angle $53,8^{\circ}$

Radiolunar angle $5,1^{\circ}$

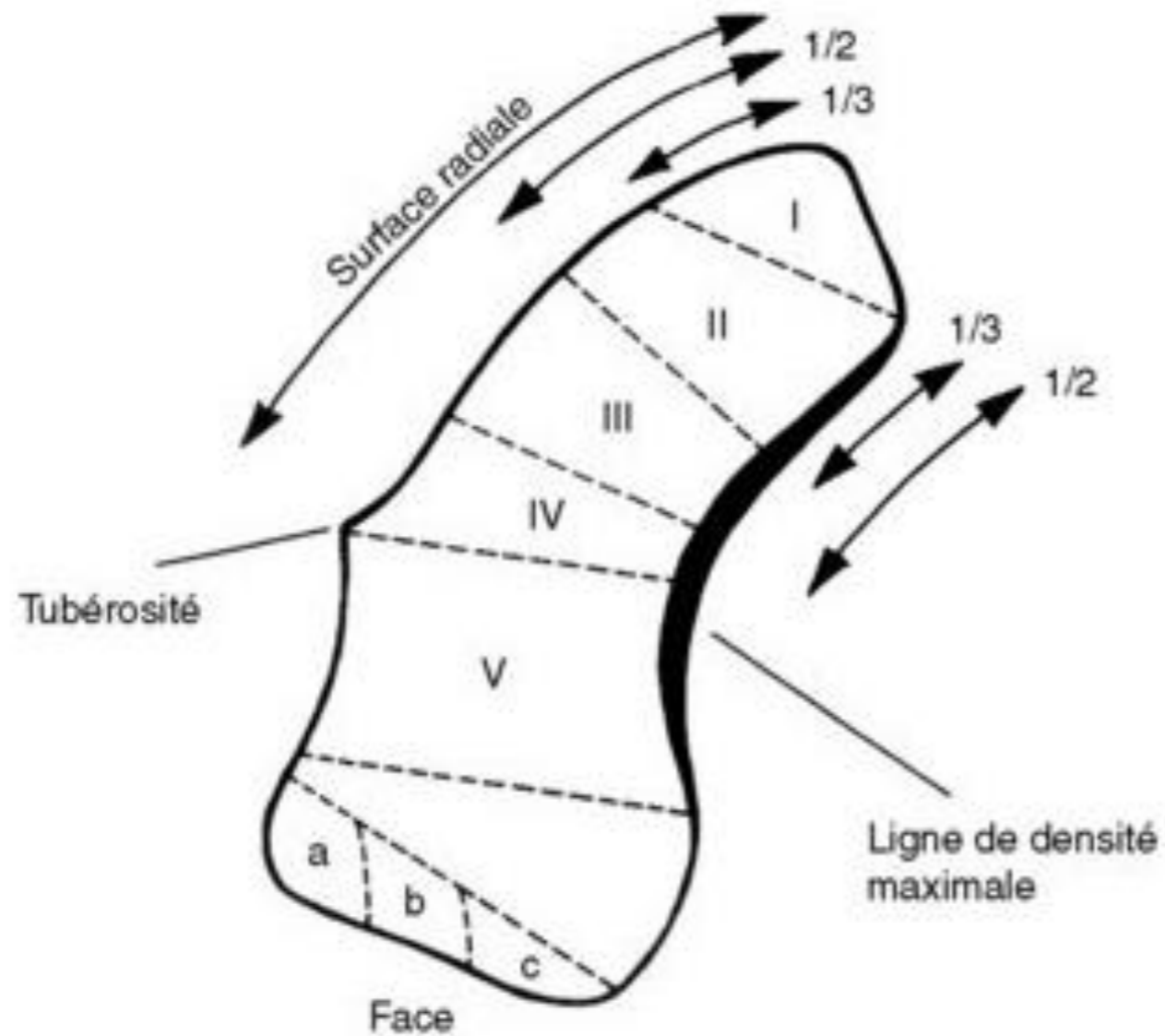
Post-operative results



Same as others
except

Type of fracture

Fracture types – Nonunion



III	61,5 %	25 %*
IV	17,5 %	25 %
II	10,9 %	37 %*
V	4,3 %	12 %
VI	4,3 %	0 %
I	1 %	0 %

Conclusion

Largest observational study

Indicating :

Reliable option

Low complication rate

Back to work

Back to activities

Multicentric RCT is needed



Merci pour votre attention
Thanks for your attention