

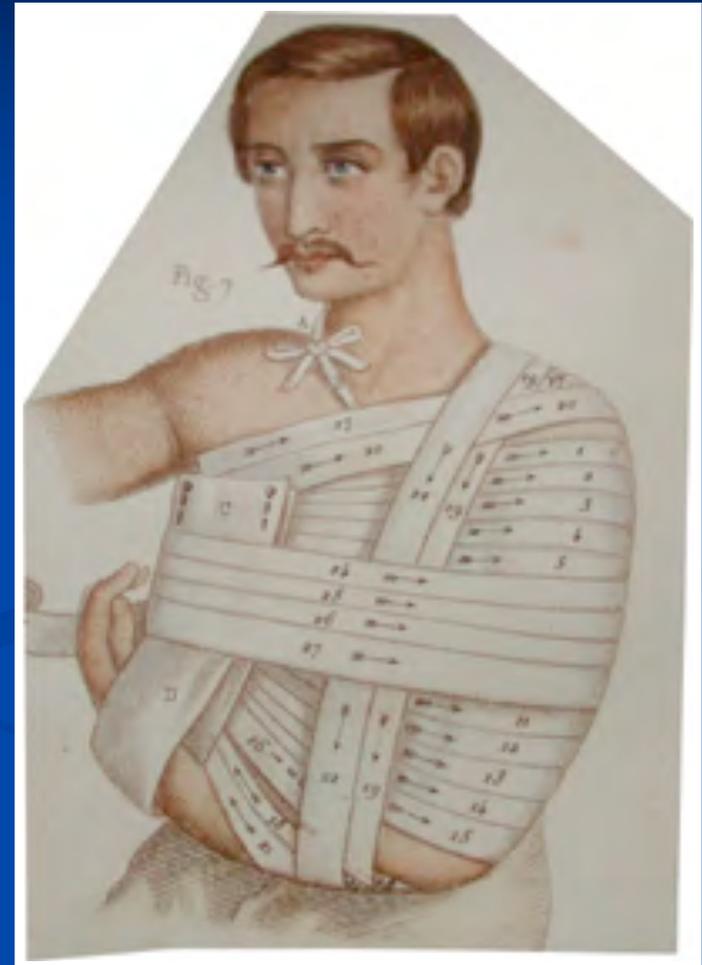


La chirurgie des
fractures de
l'extrémité supérieure
de l'humérus

Pr Levon DOURSOUNIAN

Saint Antoine -Paris

Traitement conservateur pour la majorité des fractures



Pour les autres :

Chirurgie... mais de difficulté très variable!

2 grands paramètres chirurgicaux:

■ Le blessé

- âge
- lésion associée
- antécédents
- exigences

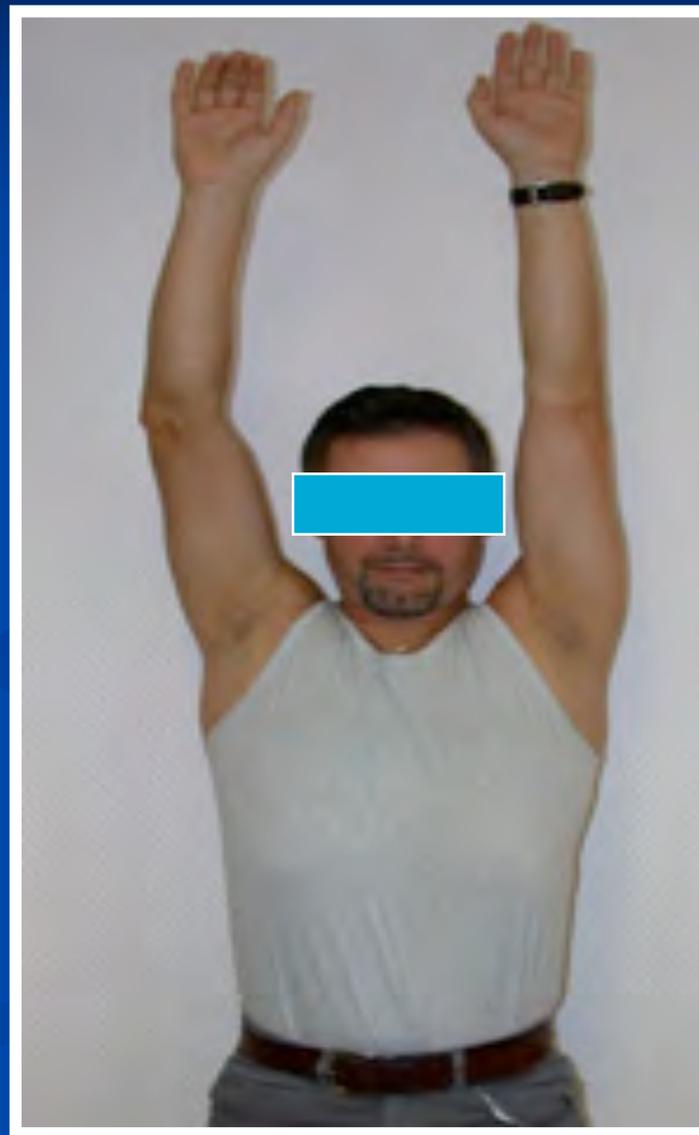
■ La fracture

- fragments
- comminution
- ostéoporose

75 ans



40 ans

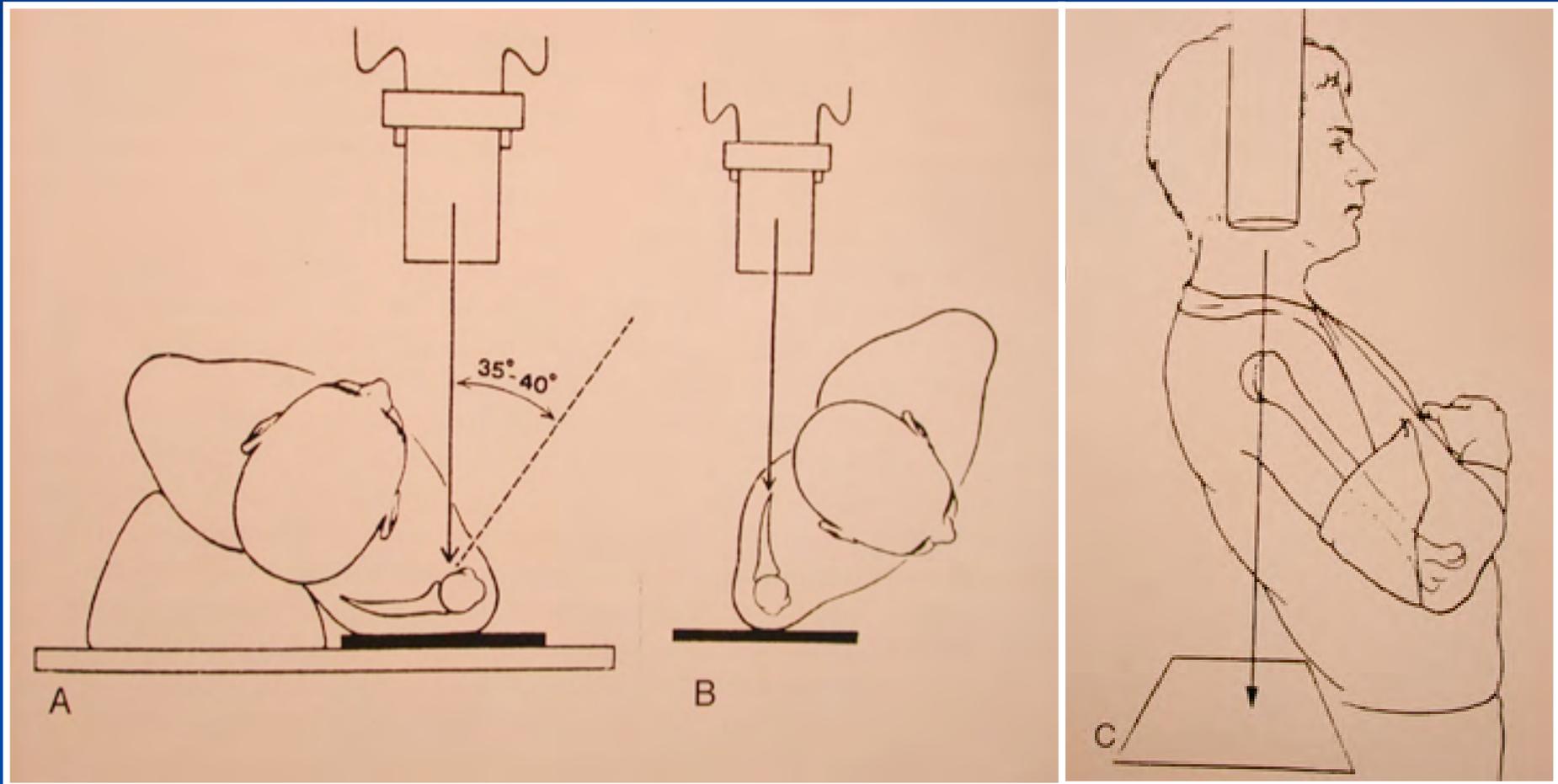




La décision impose :

- Un bilan du terrain
- Une évaluation des besoins fonctionnels
- Une imagerie: **Rx +++**

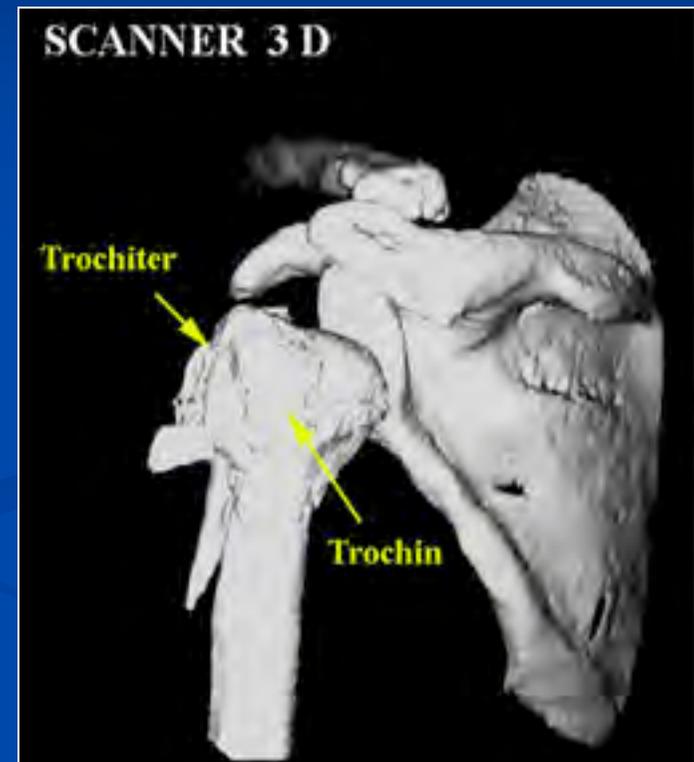
Ces trois incidences suffisent le plus souvent



Il faut pouvoir préciser:

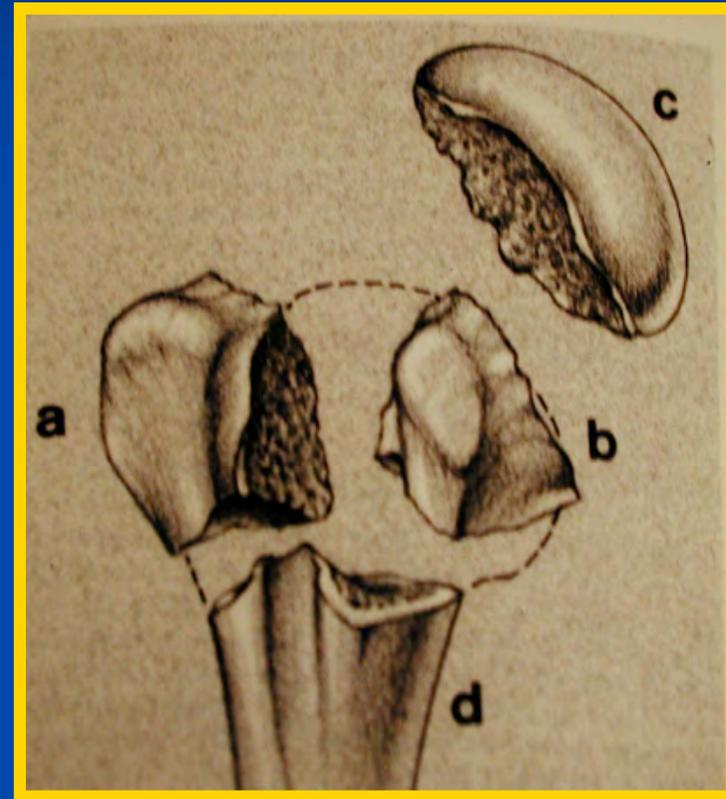
1. l'absence de luxation céphalique
2. le nombre de fragments
3. le déplacement des fragments
4. la qualité de l'os

Intérêt parfois du scanner



Analyser les traits de fractures et compter le nombre de fragments

Classification de Neer

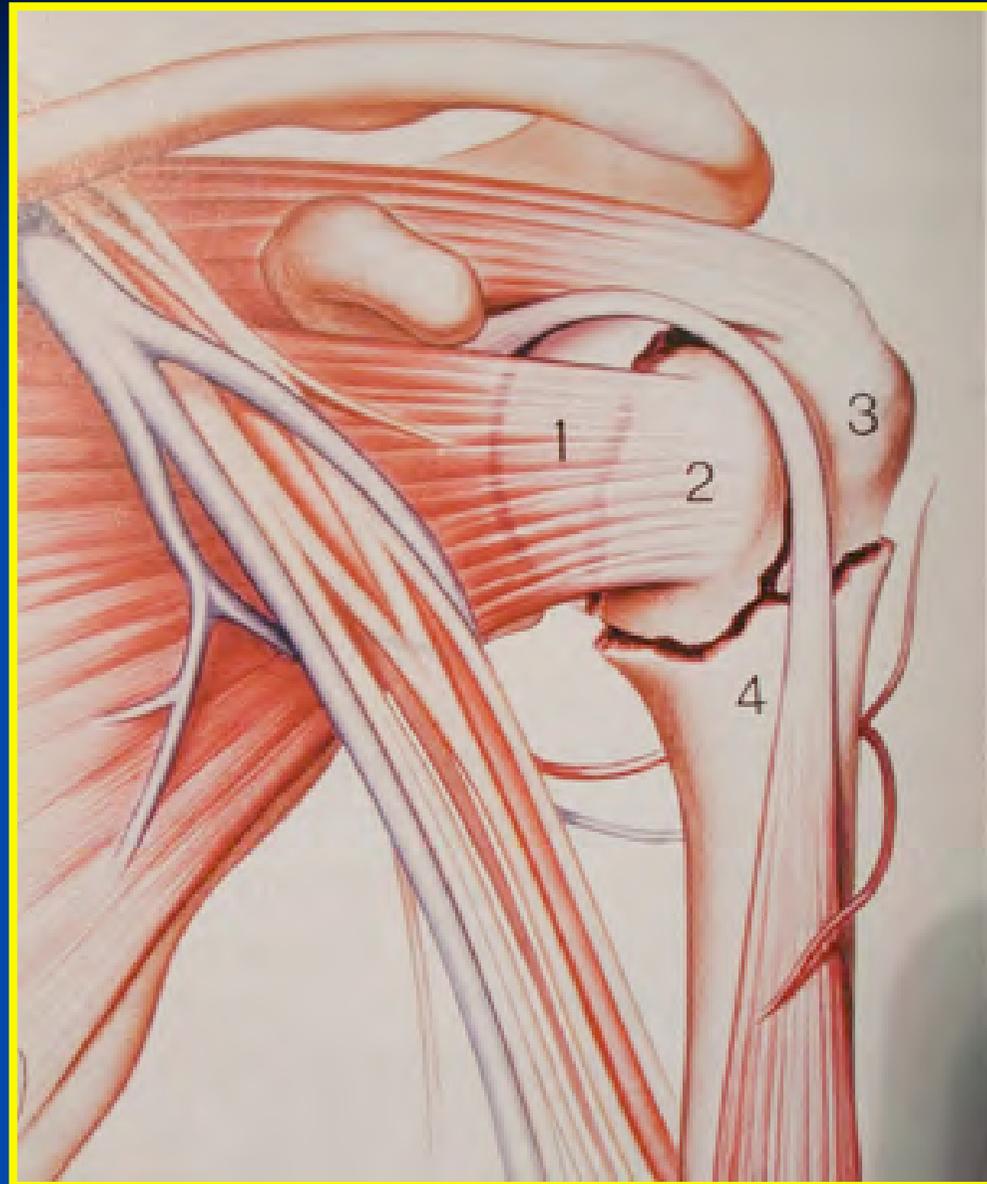


Codman

Ce qui est
simple est
toujours faux.

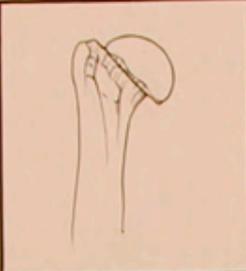
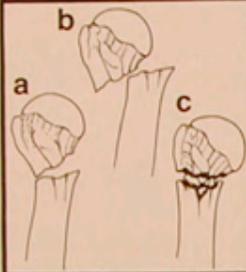
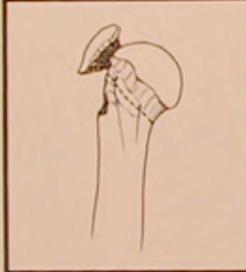
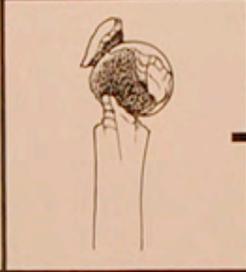
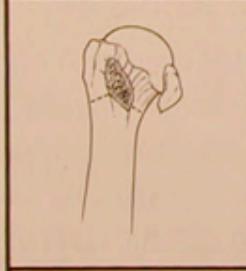
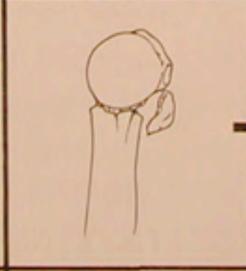
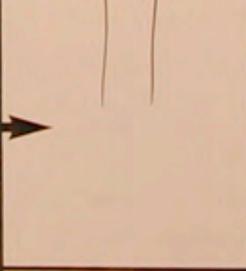
Ce qui
ne l'est pas est
inutilisable.

Paul Valery



Neer

Displaced Fractures

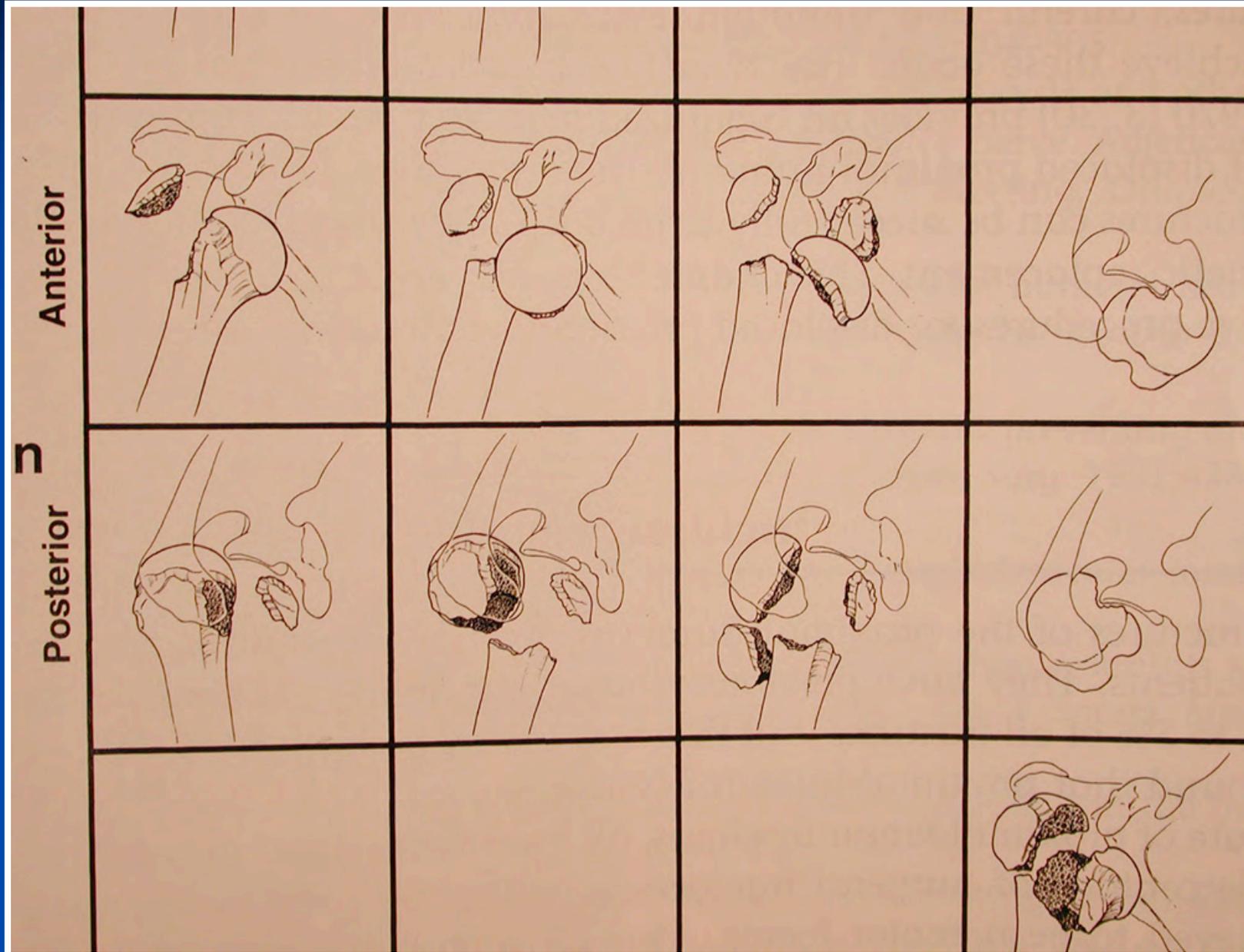
	2-part	3-part	4-part	Articular Surface
Anatomical Neck				
Surgical Neck				
Greater Tuberosity				
Lesser Tuberosity				

2-part

3-part

4-part

Articular surface

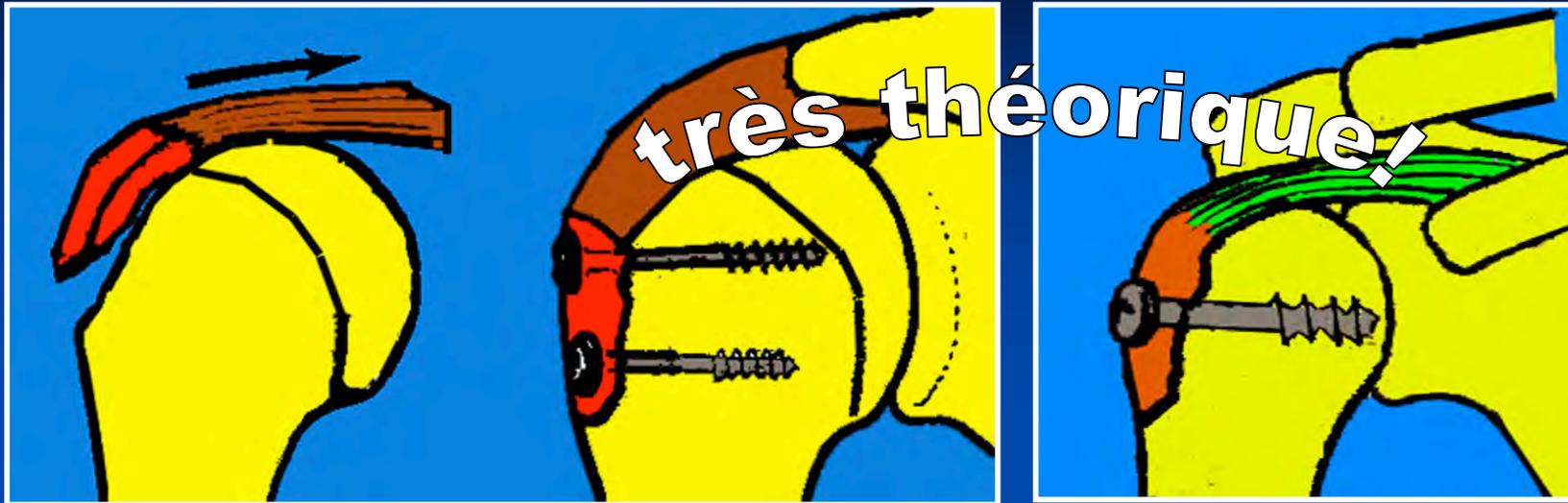


Fractures à 2 fragments

Fractures tubérositaires

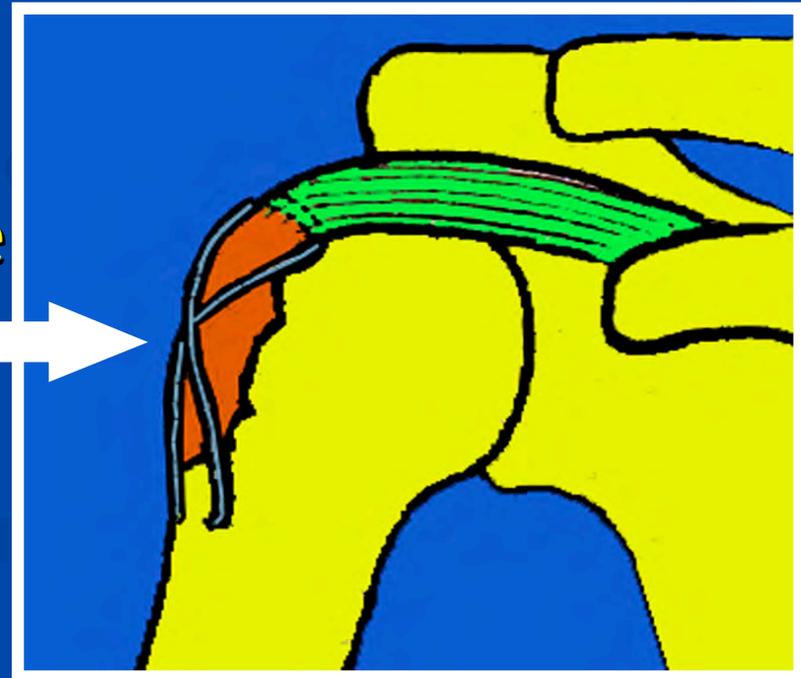


Fractures du trochiter déplacées

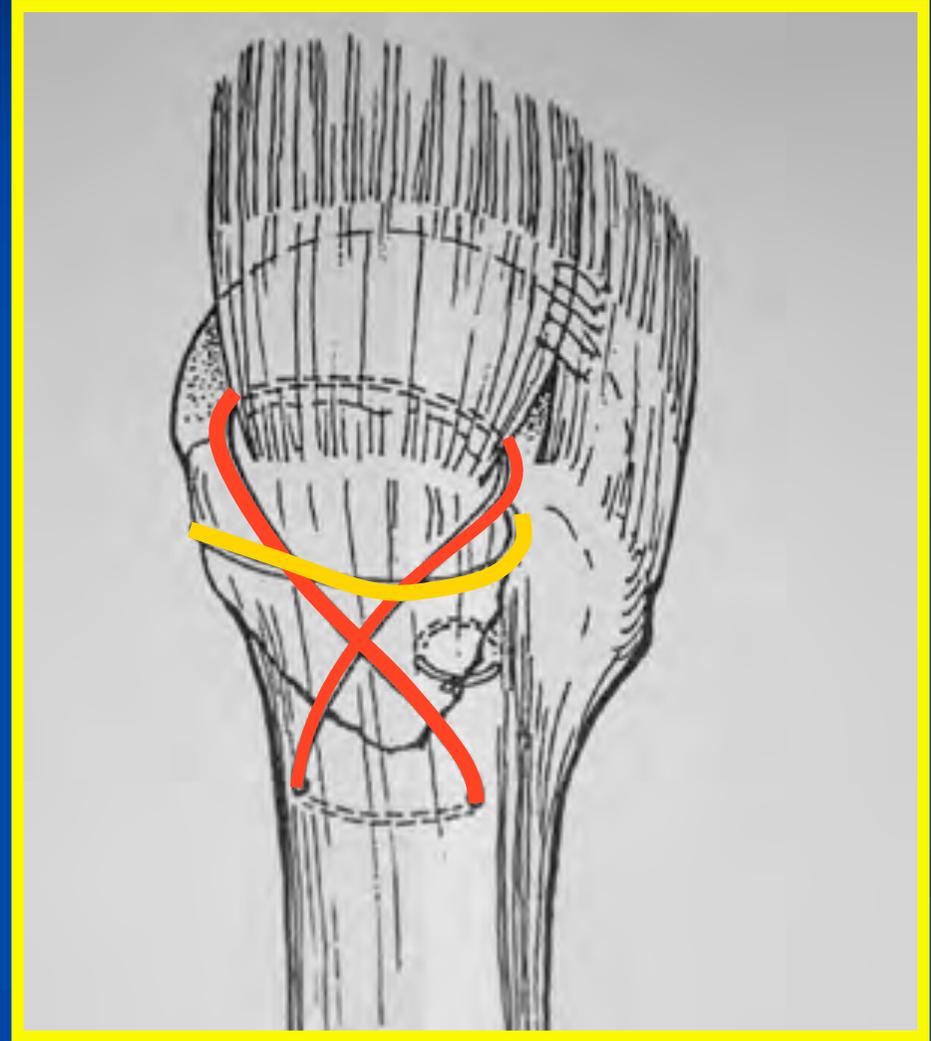
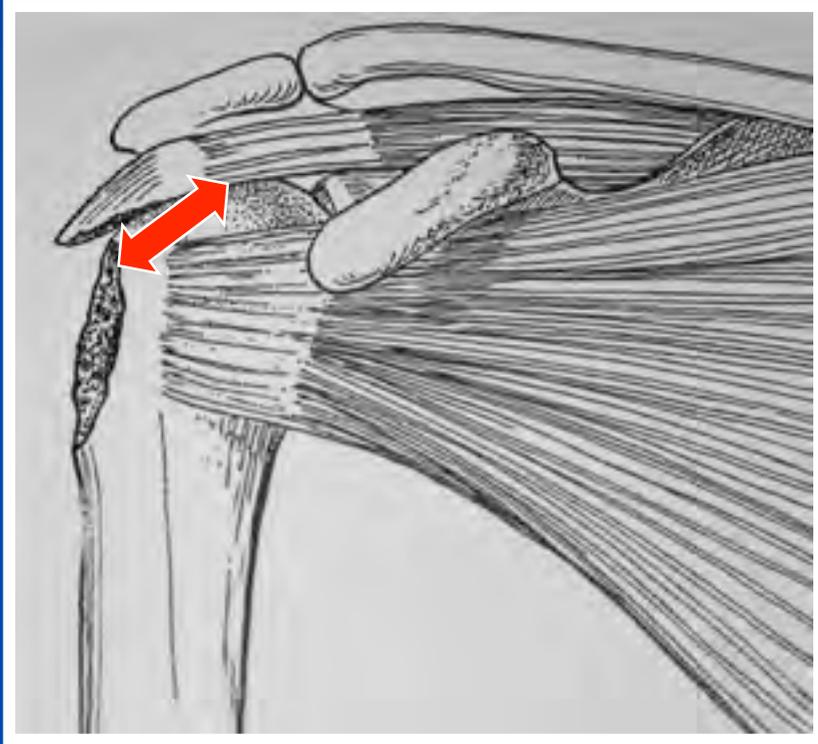


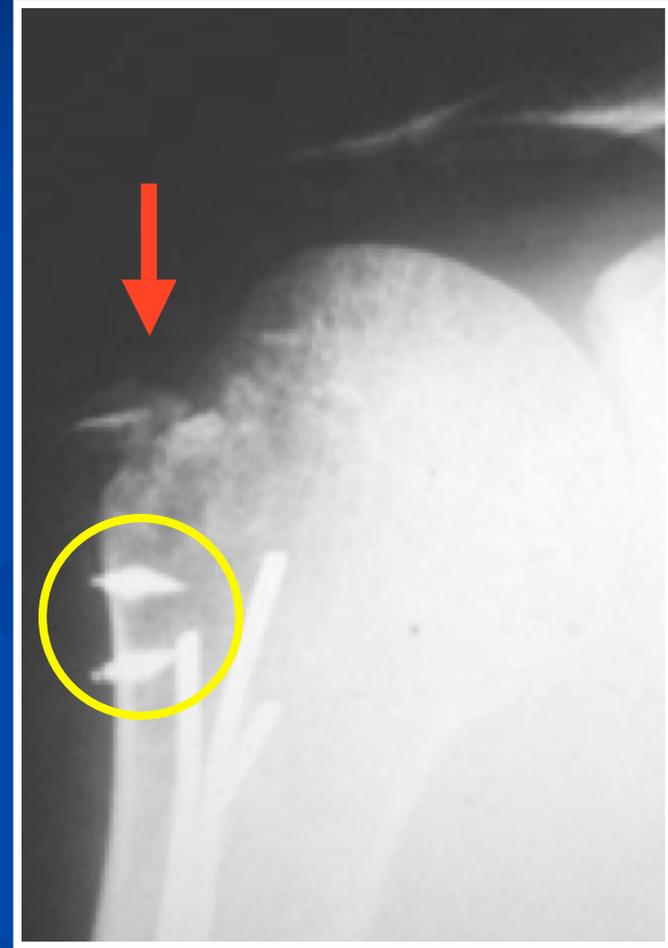
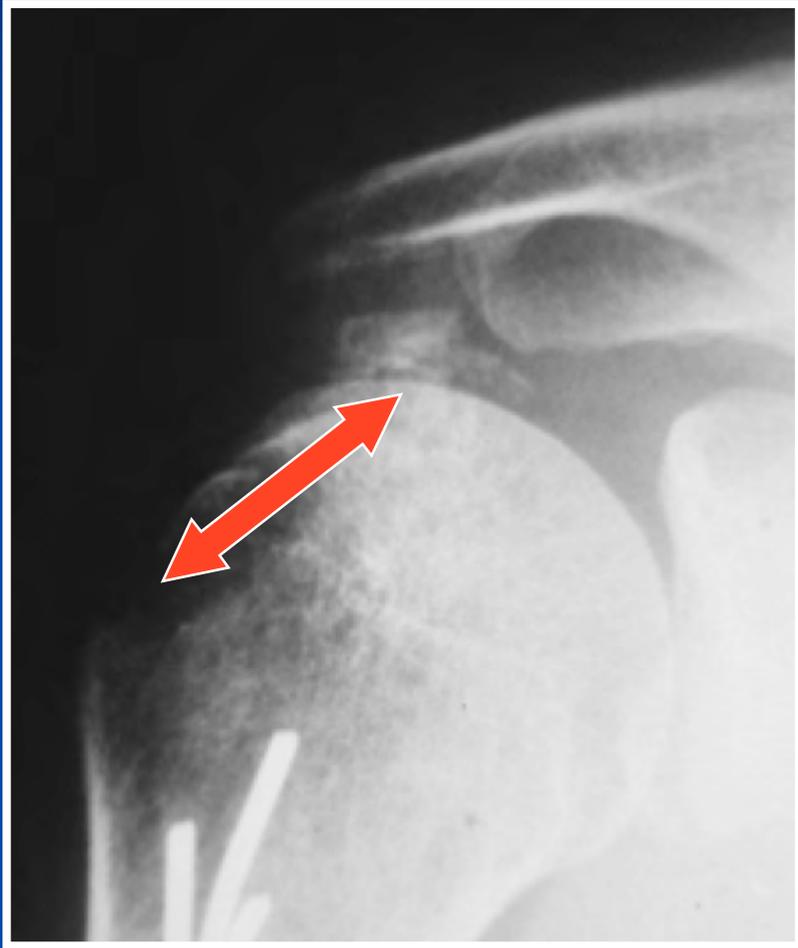
Ostéosynthèse par cerclage

+++

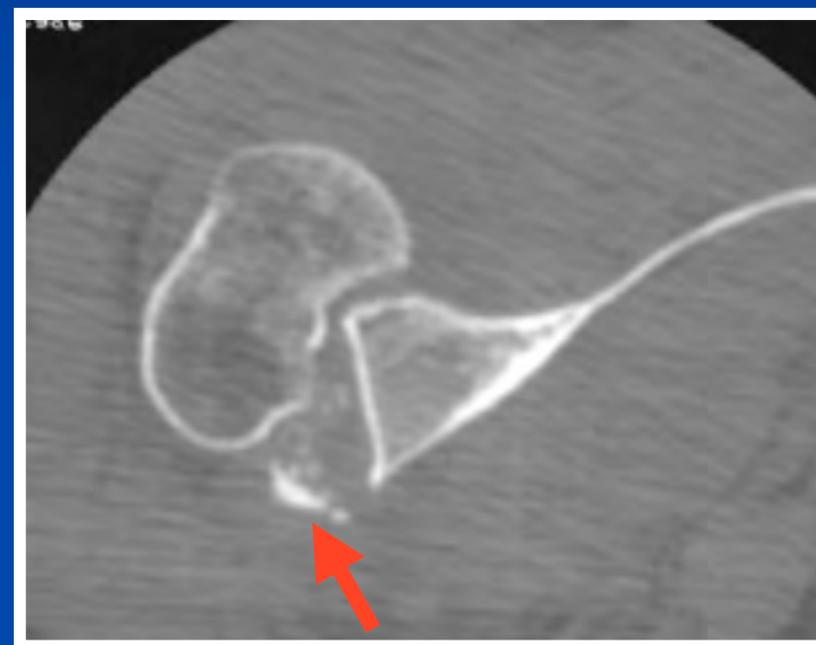
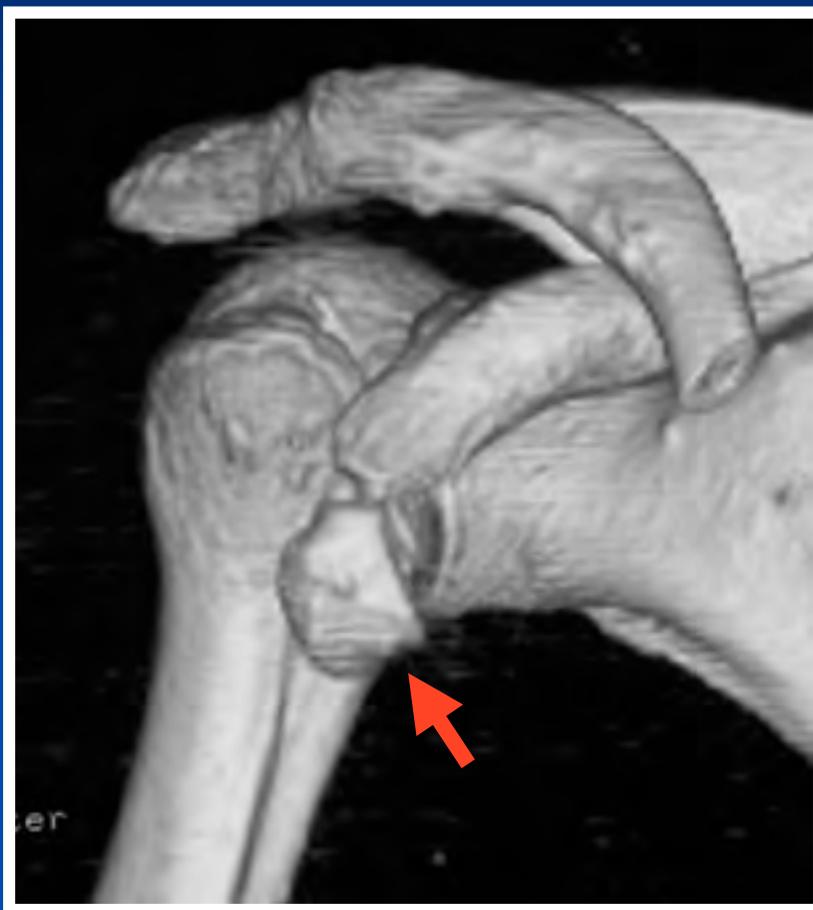


laçage tubérositaire +++





Fractures du trochin



Fractures à 2 fragments

Fractures sous tubérositaires



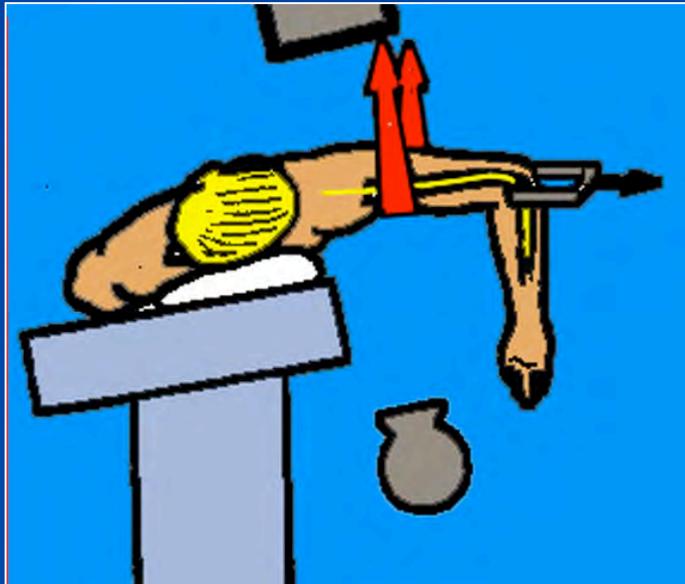
Réduction en règle obtenue
Maintient de la réduction plus délicat



La plupart du temps la réduction est instable

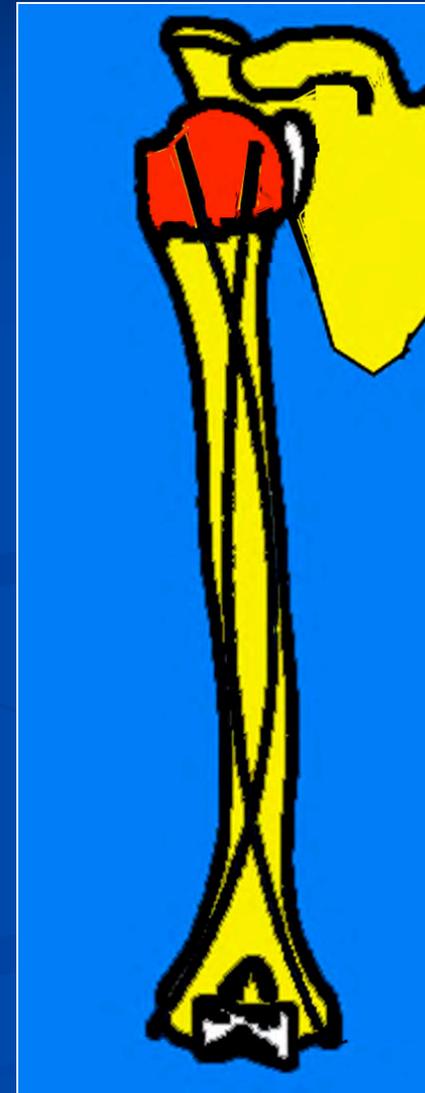
Fixation chirurgicale

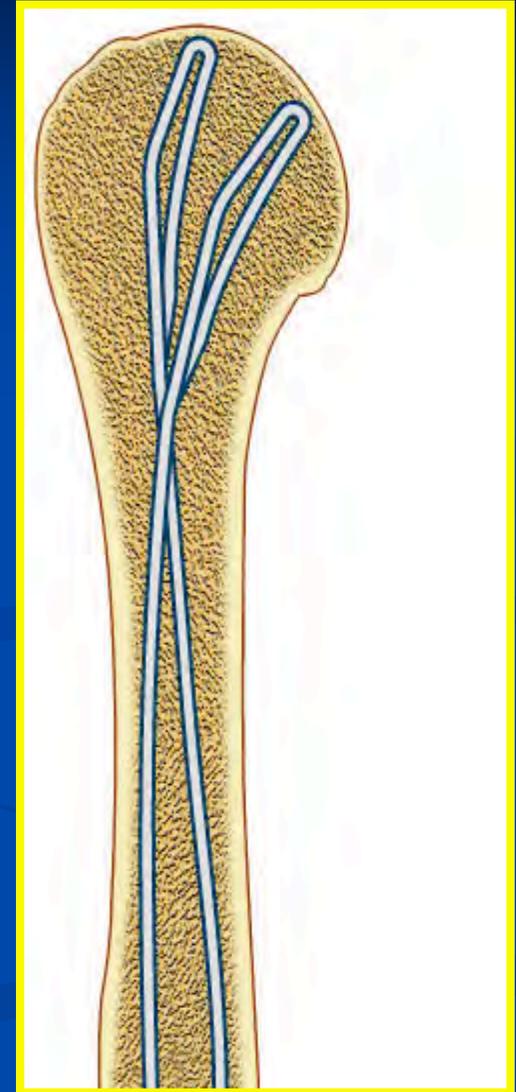
Embrogage élastique (Hacketal)



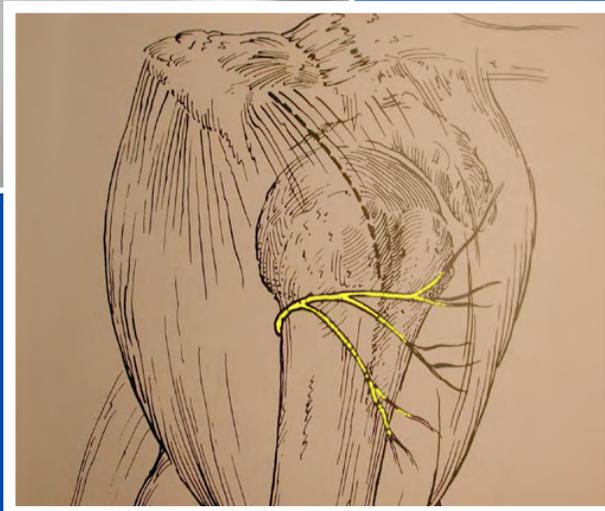
Réalisé sous traction, à plat ventre avec
contrôle radioscopique

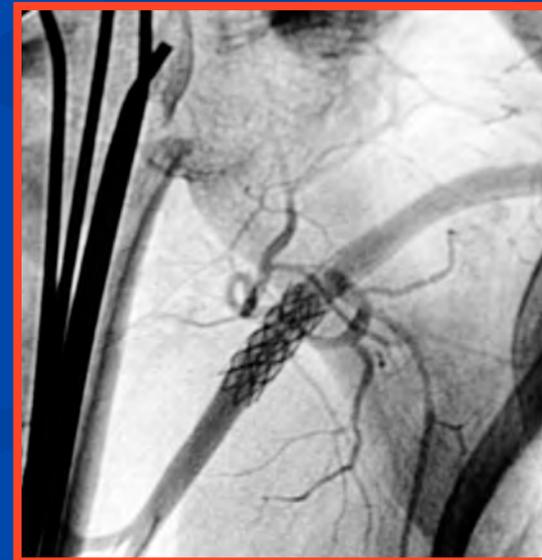
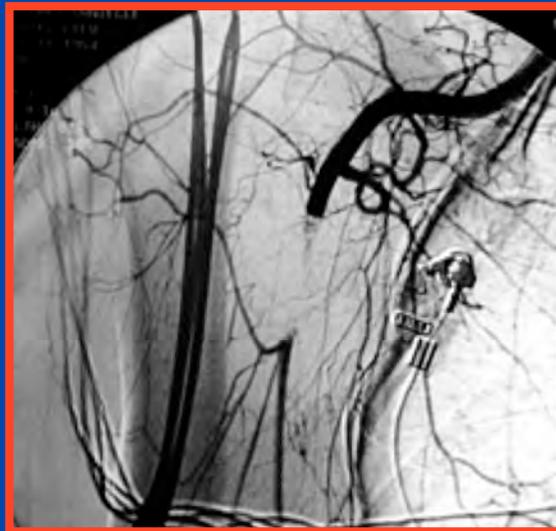
2 à 5 broches sont introduites
latéralement ou au centre, au dessus de la
fossette olécraniennne

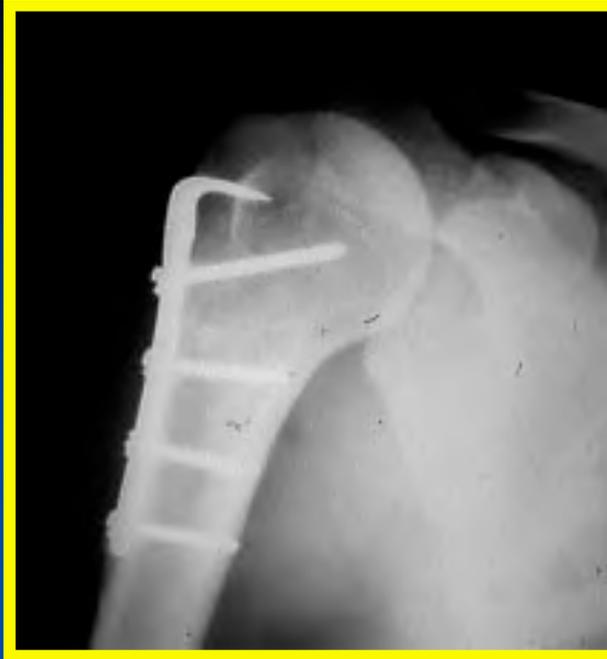
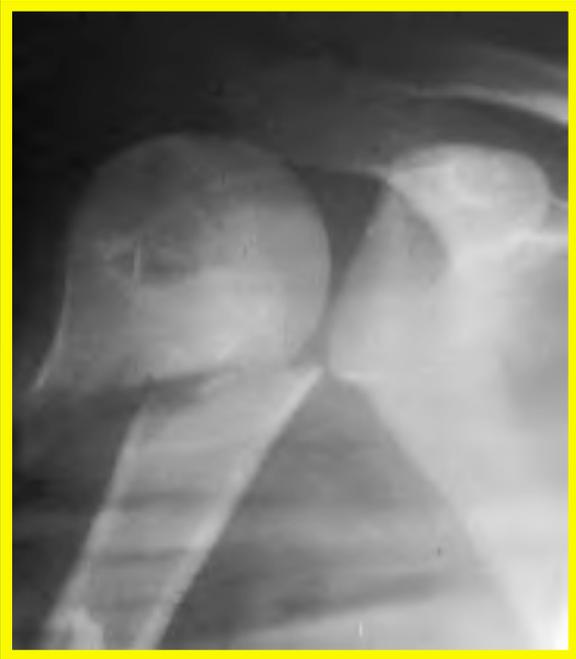




Broches percutanées à foyer fermé







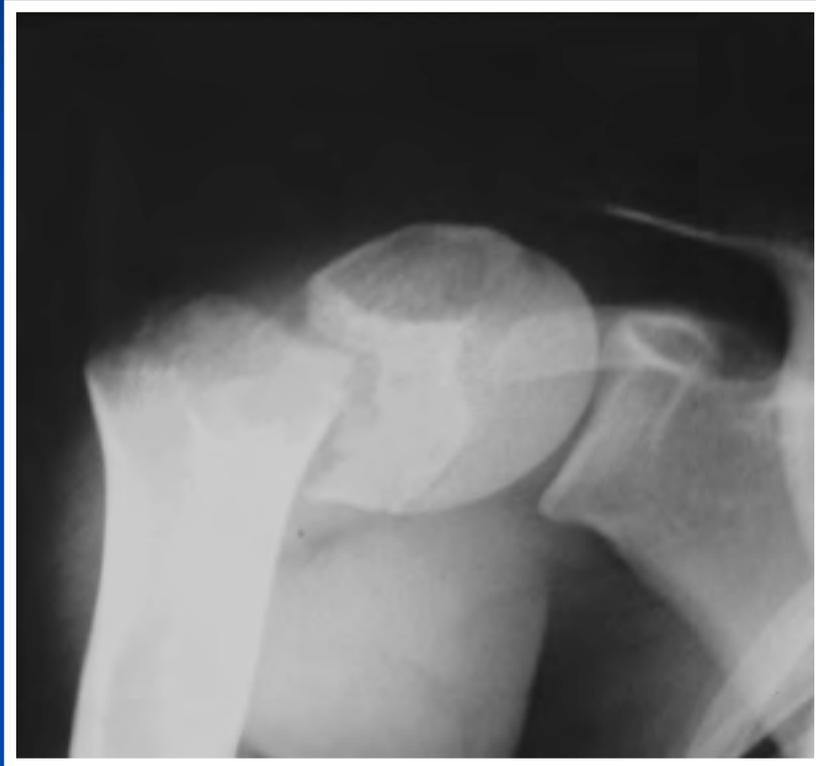
Plaque
vissée

Clou

**Os
Compact:**
pas de
problème...



15 ans - Sous-tubérositaire...



Décollement épiphysaire

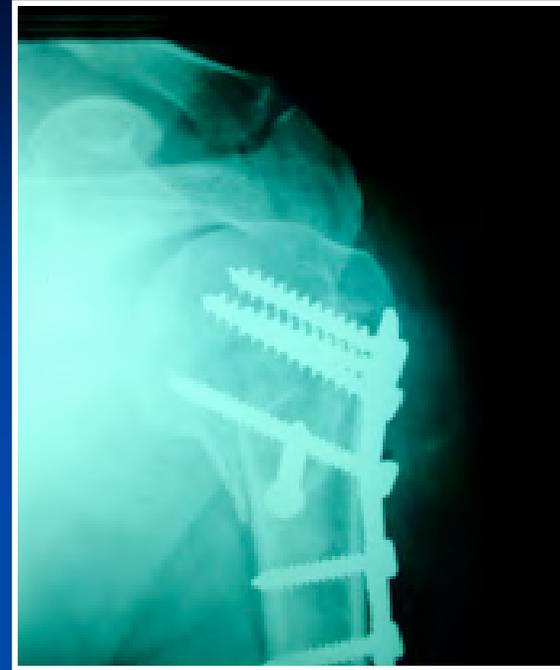
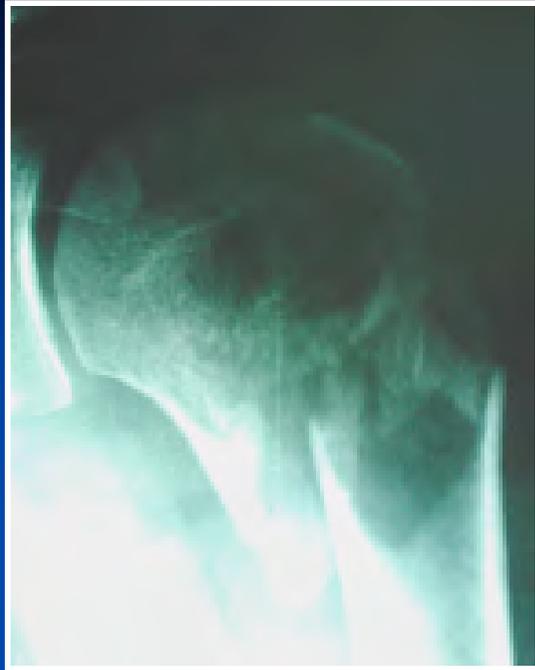


1 agrafe

Plaque vissée



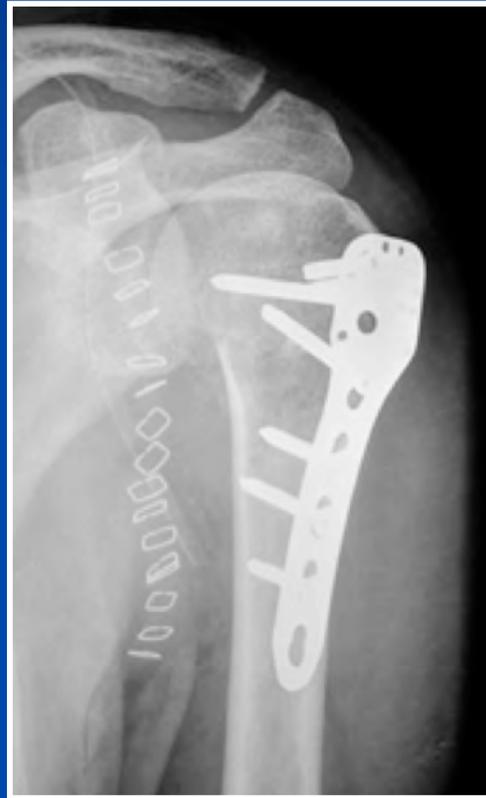
**Une ostéosynthèse solide avec une plaque permet
une rééducation précoce**

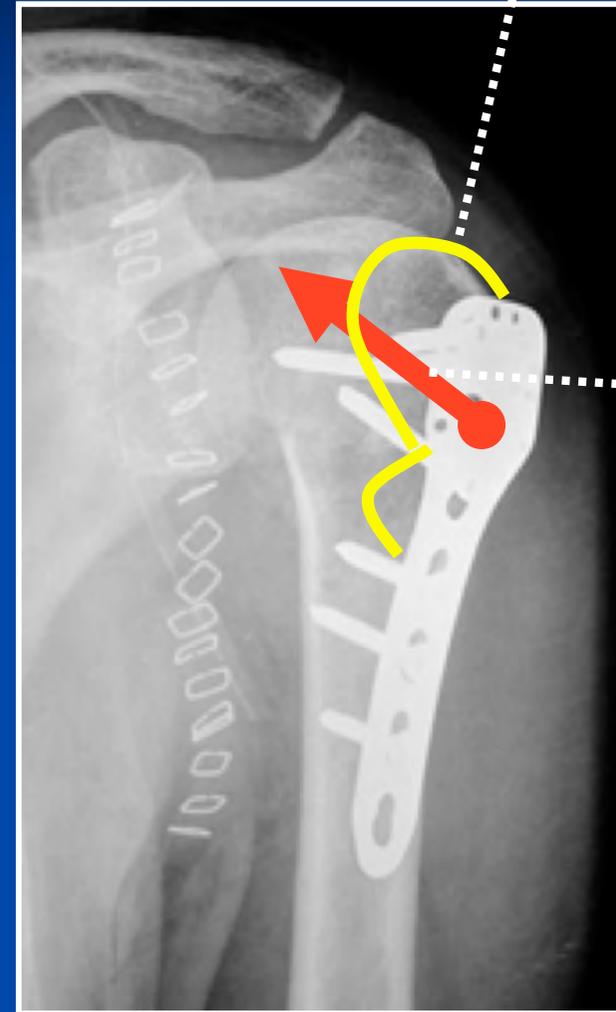


D'abord, trouver la tête !



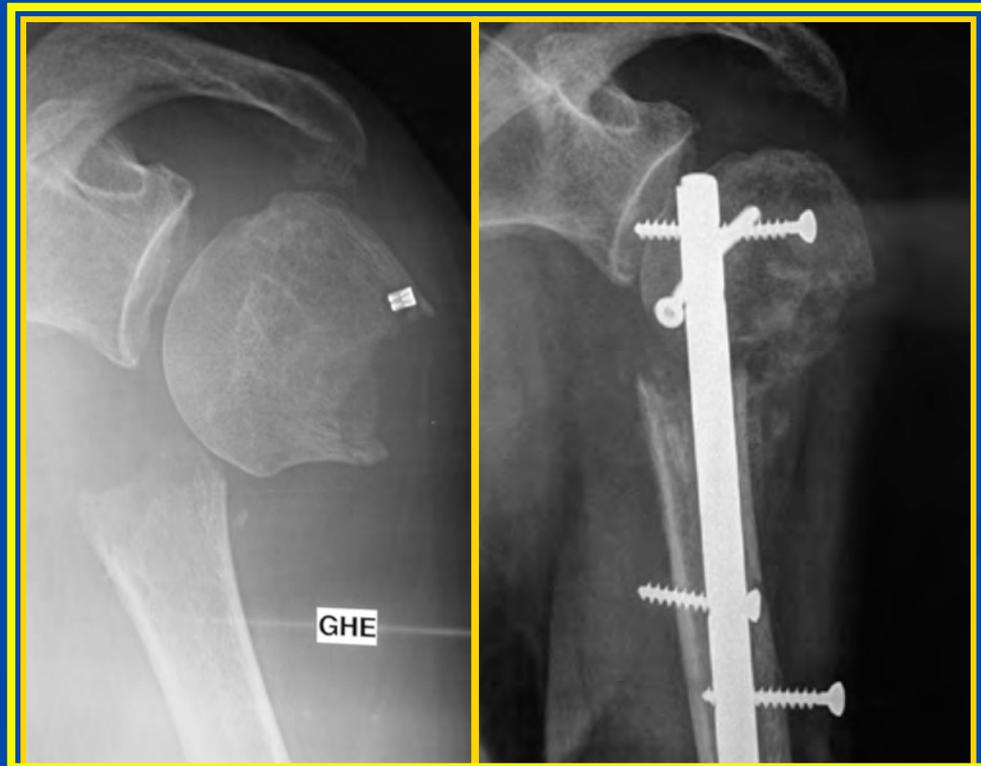
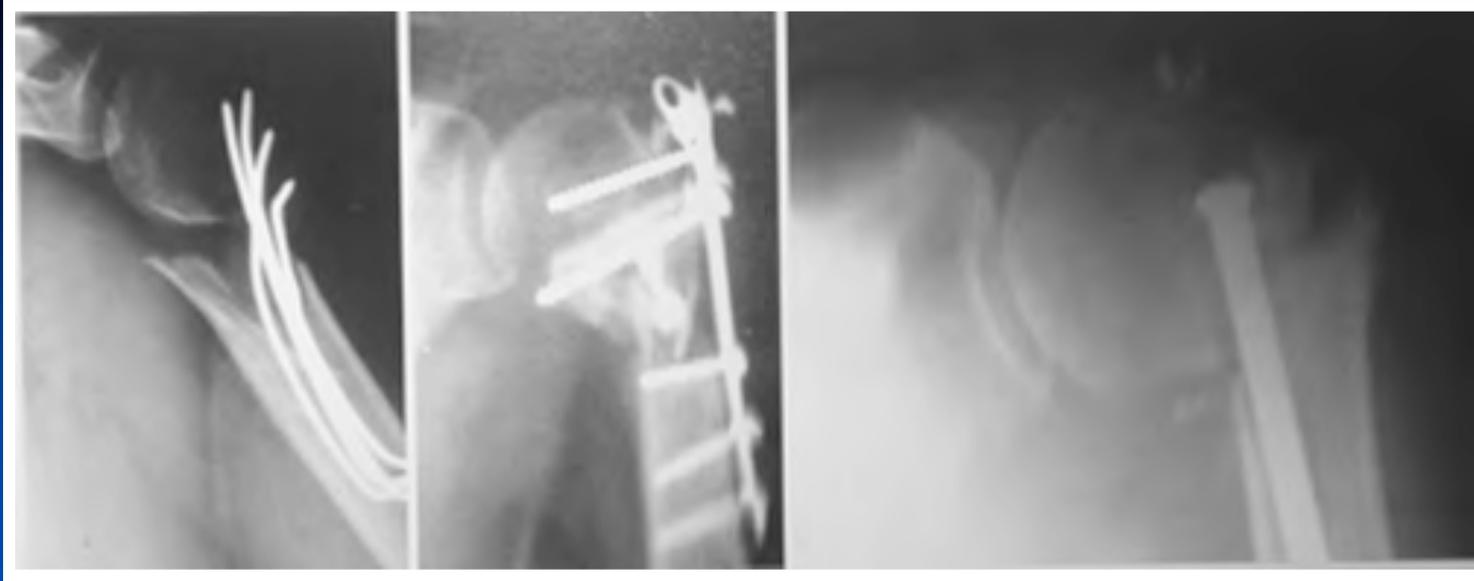
Ensuite la fixer !





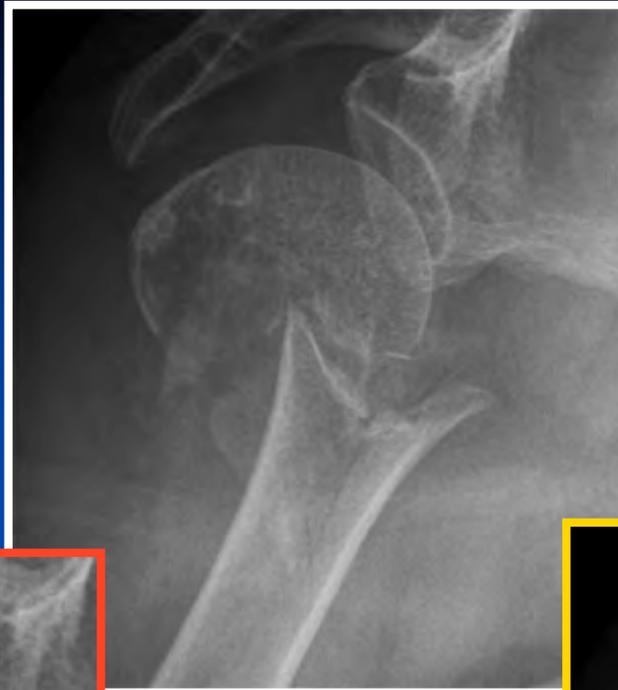
1 hauban

1 vis



Fracture

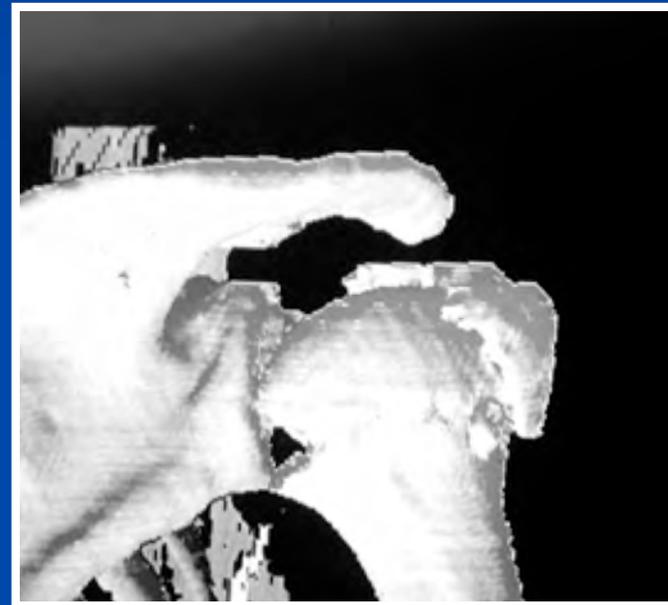
Réduction avec
impaction



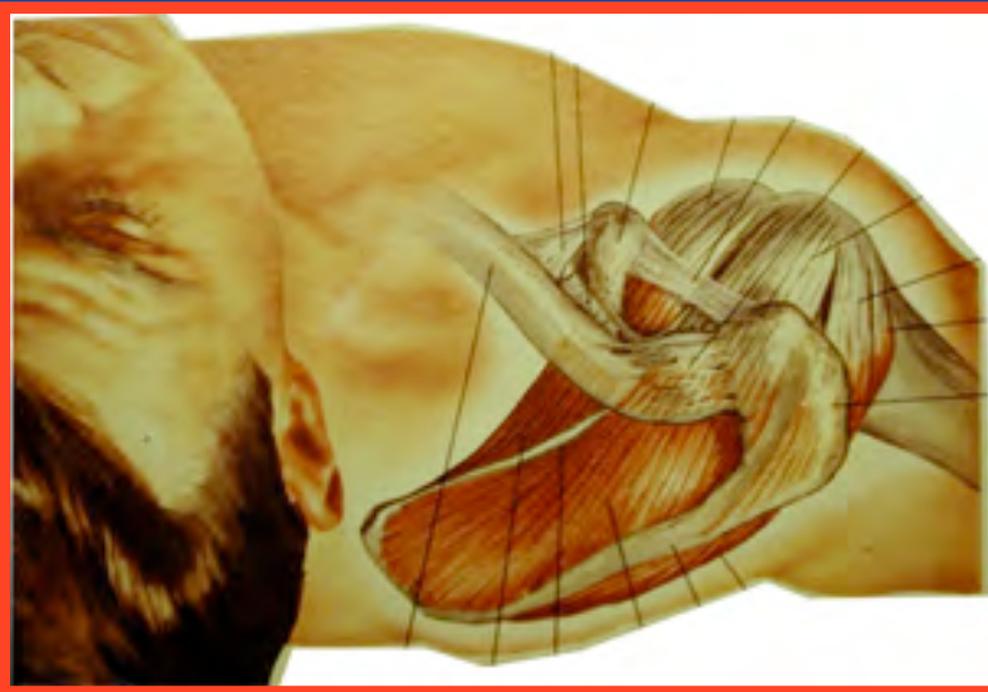
Réduction
anatomique



Fractures à 3 fragments



Muscles horizontaux



Muscles verticaux

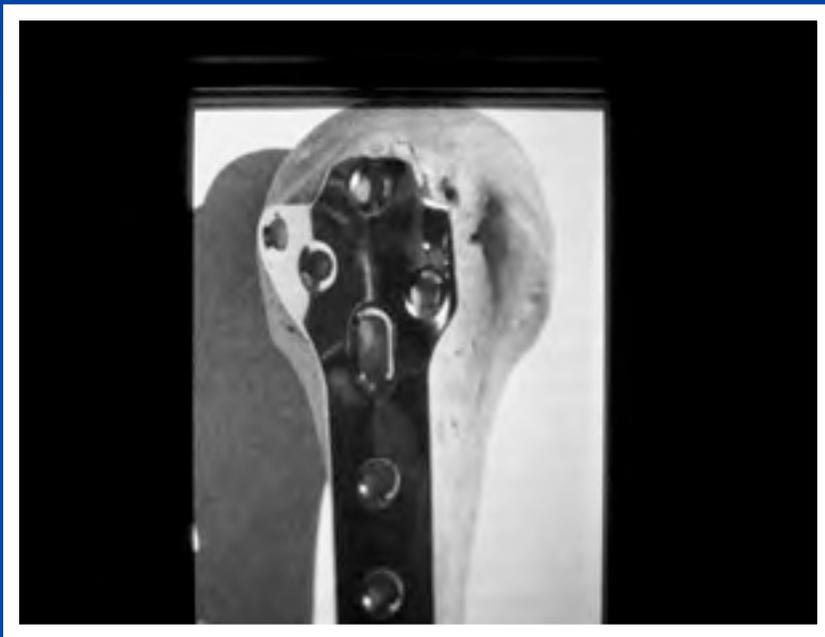


*Beaucoup de conditions défavorables à
l'ostéosynthèse :*

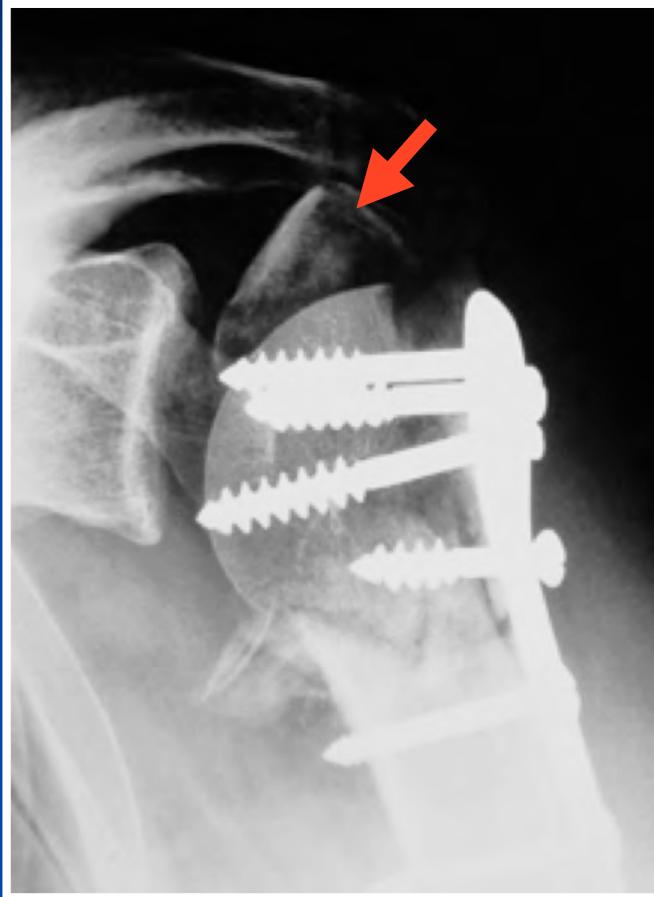


- os spongieux
- souvent osteoporotique
- petits fragments
- comminution métaphysaire
- exposition limitée

La plaque vissée



Attention aux tubérosités



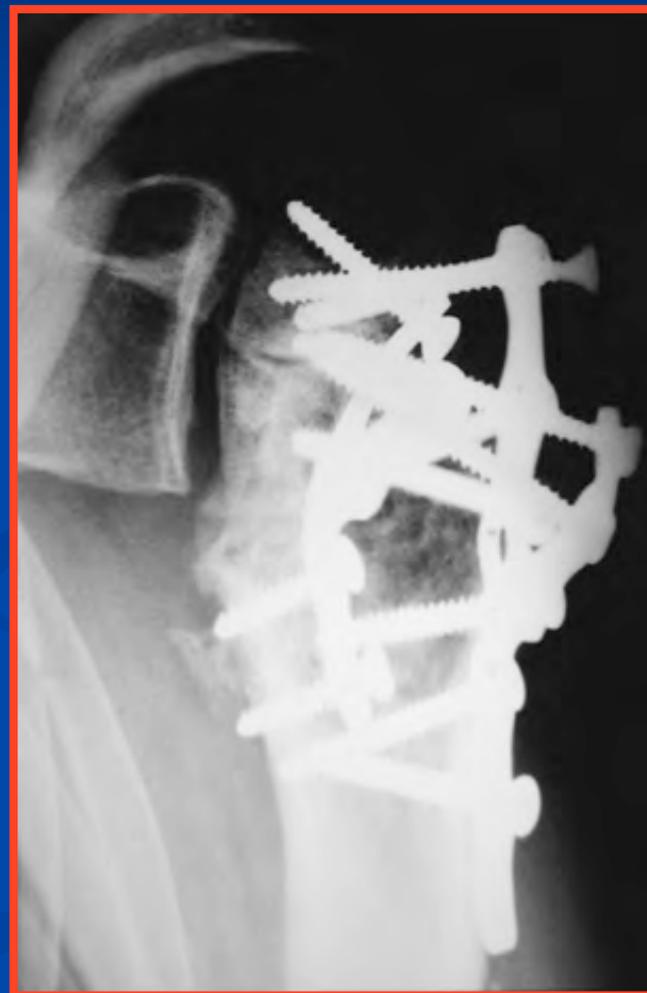


Relever
La tête

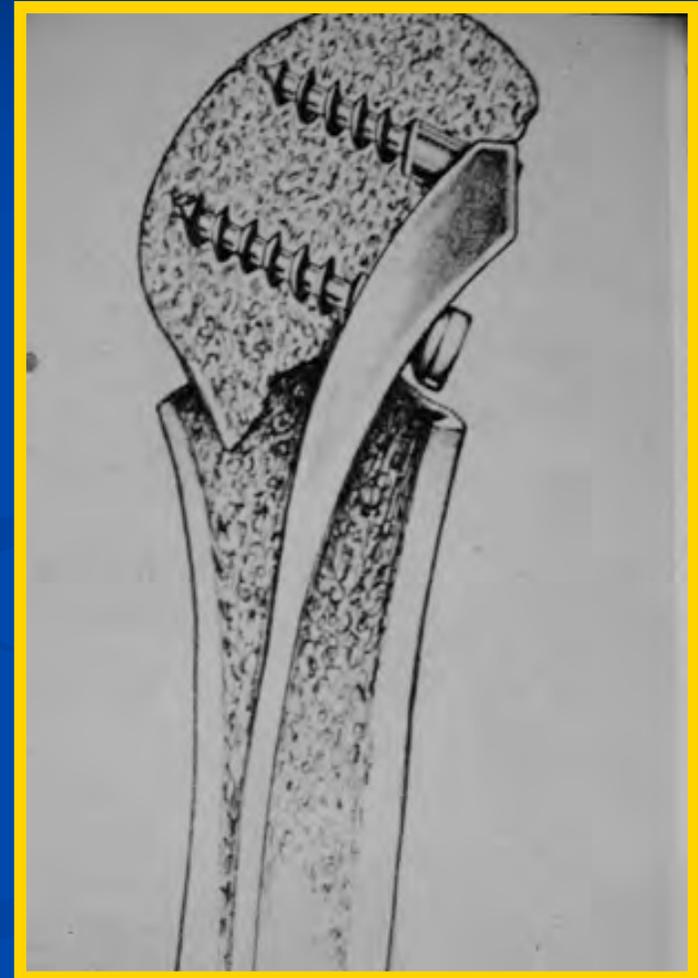
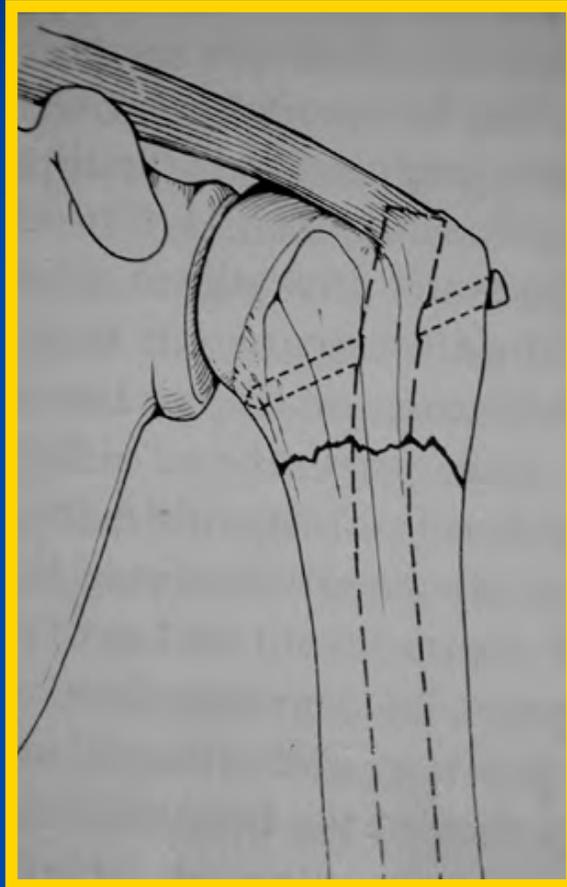
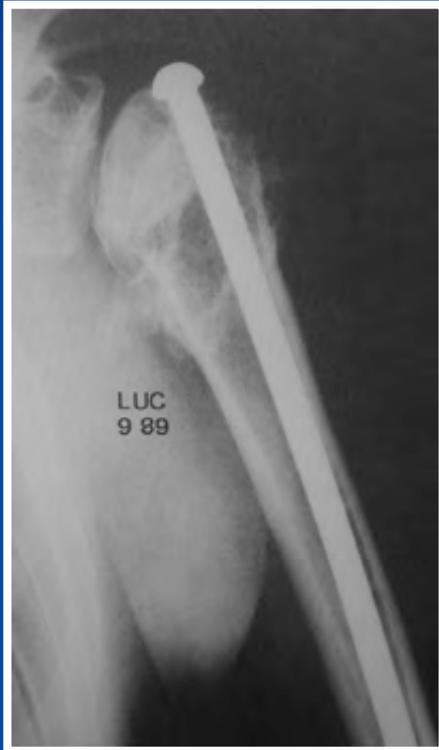




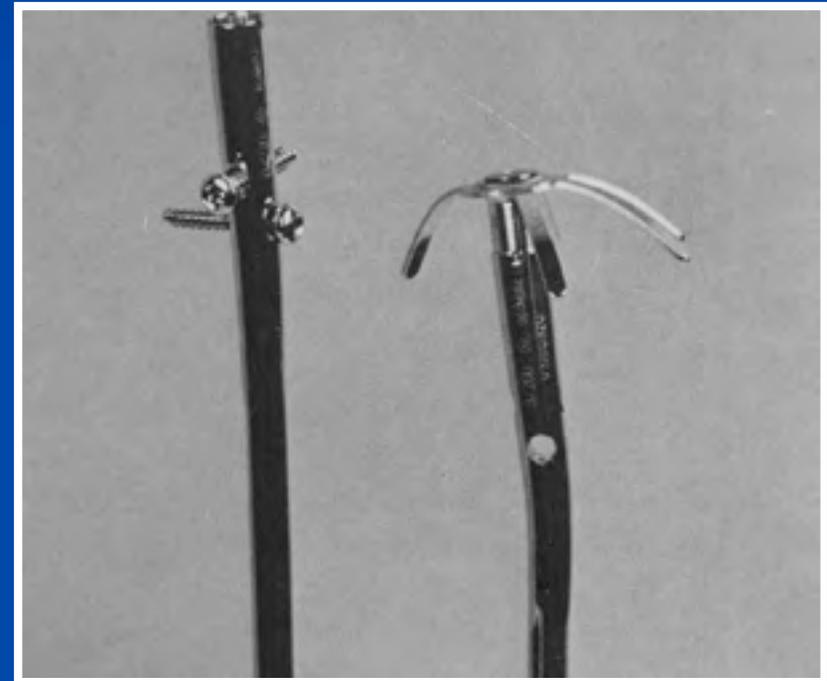
Point trop n'en faut !



Le clou



Clou de Seidel

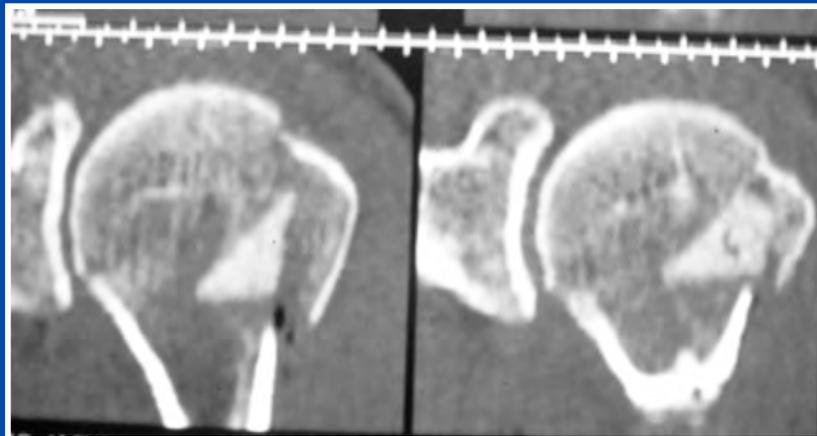


Clou Telegraph



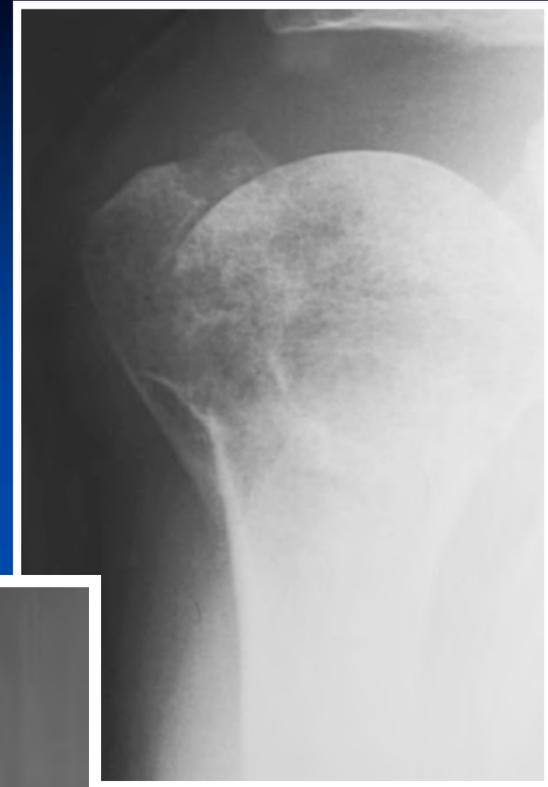
Relèvement - Greffe +++

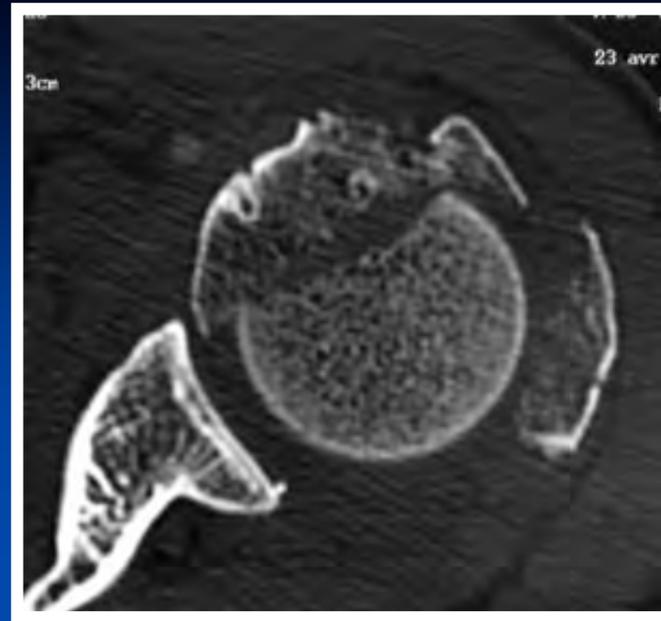


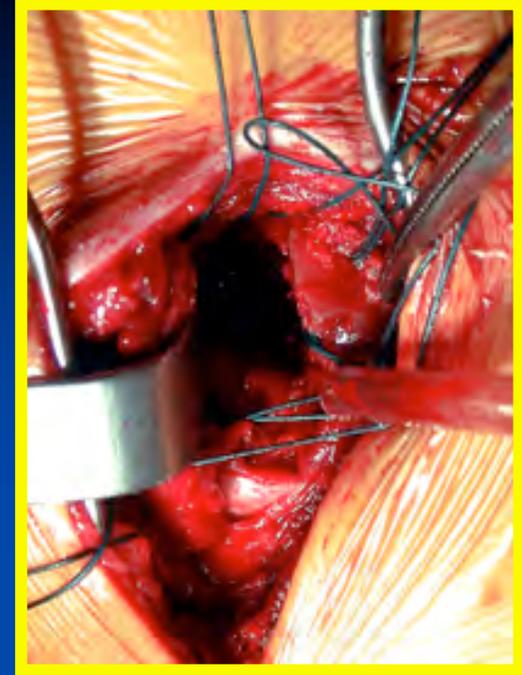
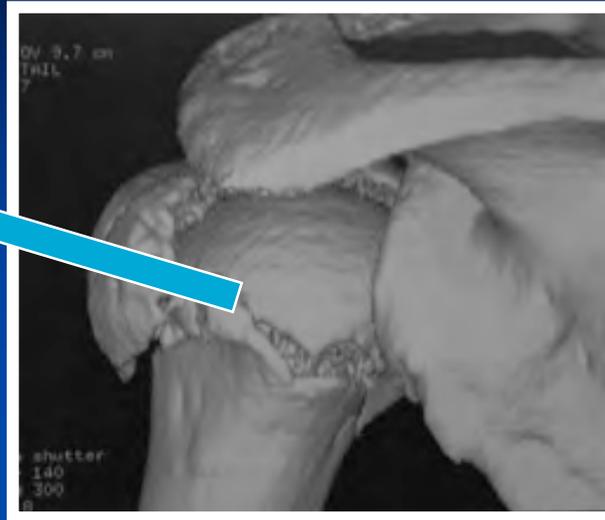


Relèvement-support ++

Abandon







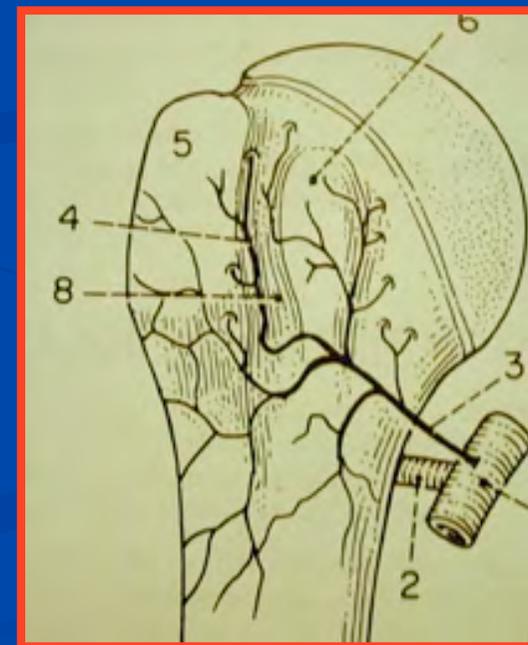
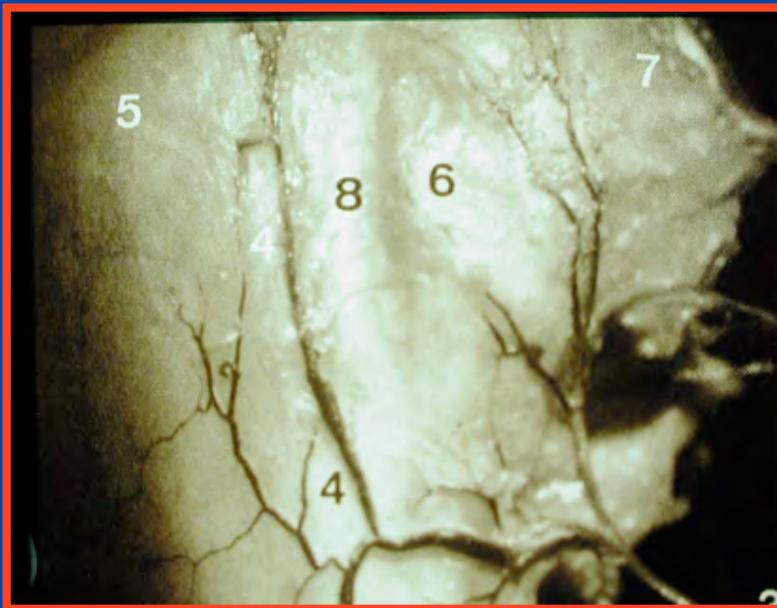
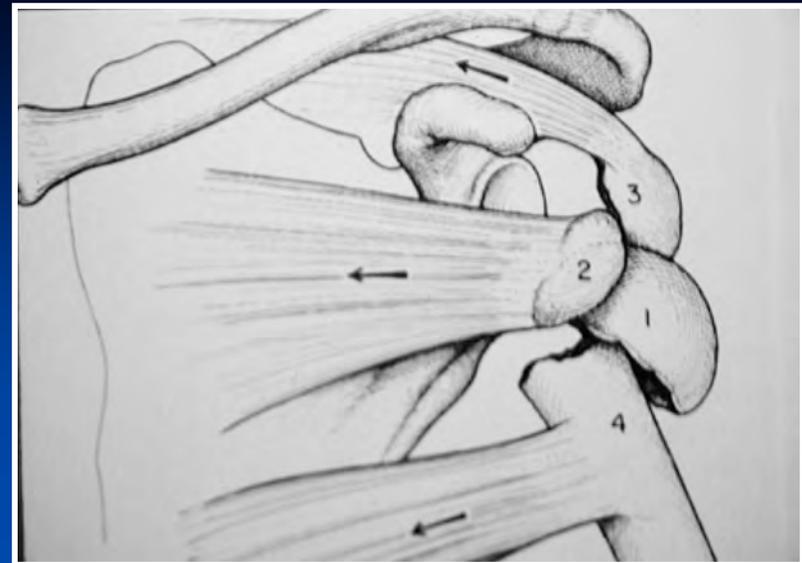
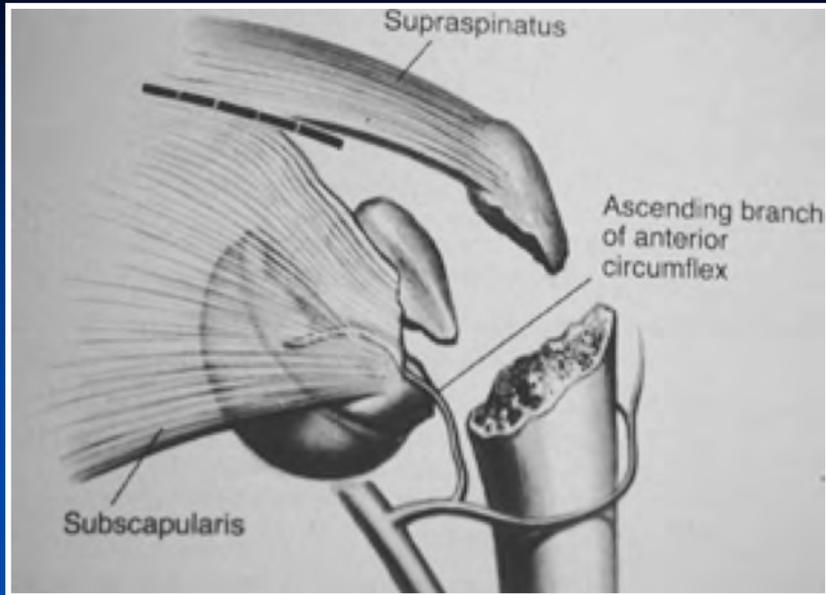
Fractures à 4 fragments



Déplacées

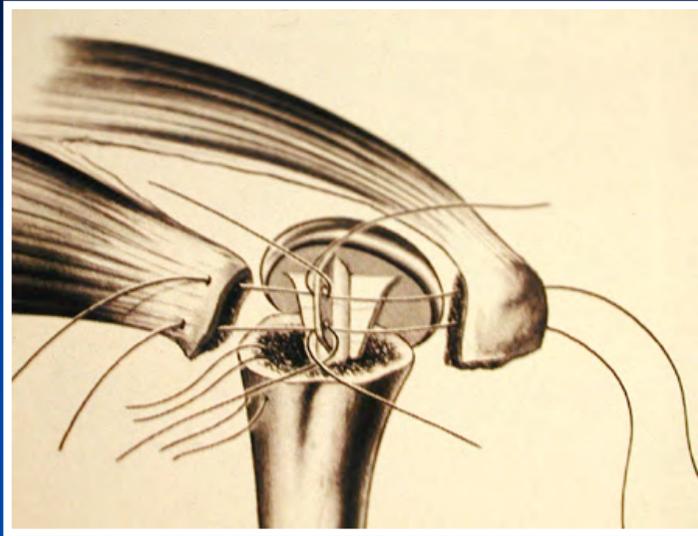


Très déplacées



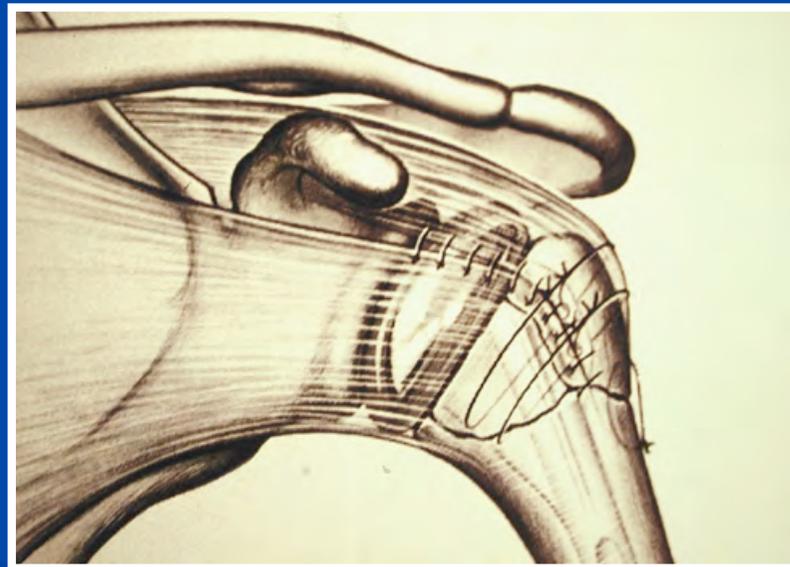
Nécrose de la tête humérale même après traitement orthopédique



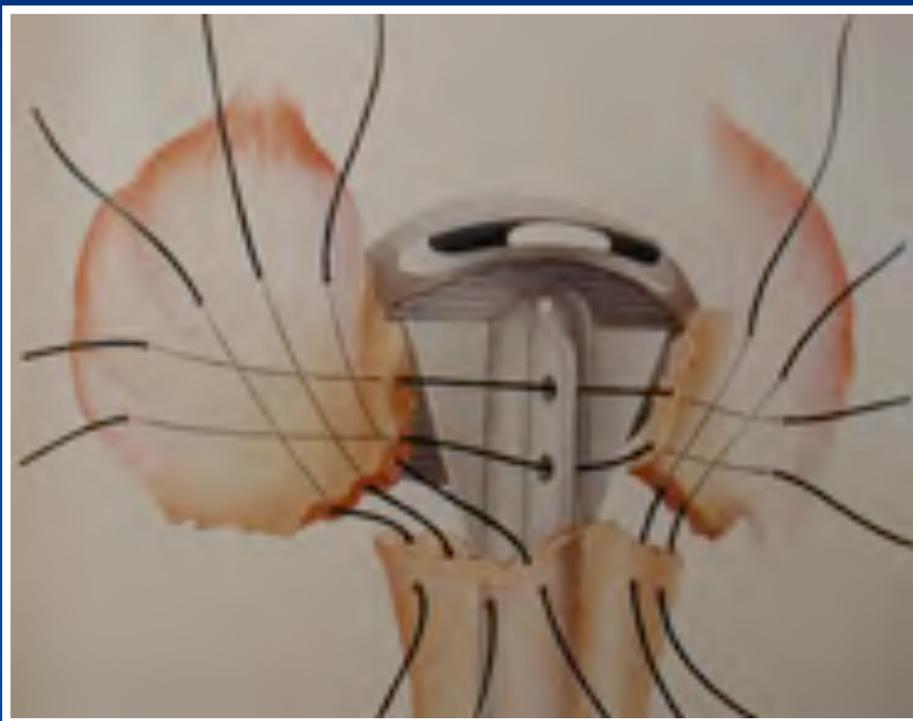


Importance de la reposition des tubérosités

En 1960, les échecs
des synthèses ont
orientés Neer
vers la prothèse



Mais les tubérosités ont du mal à consolider

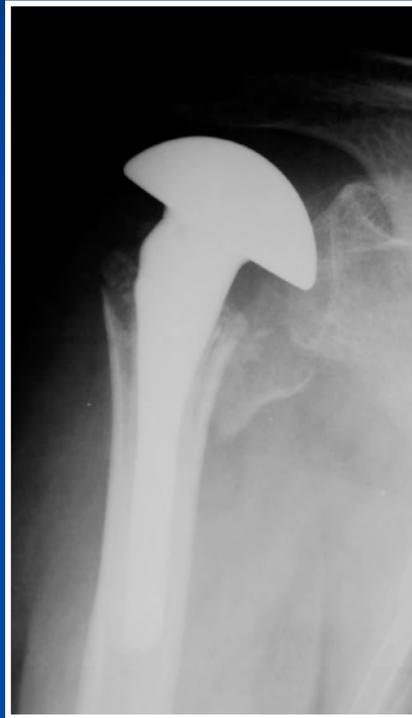


Et les résultats fonctionnels sont décevants

Cascade malheureuse



1ère



2ème



3ème





Fig. 1a

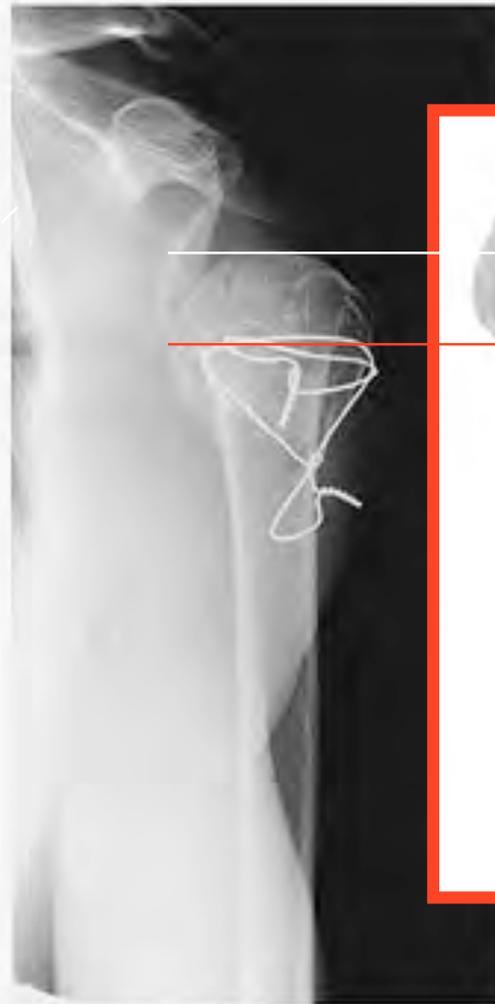


Fig. 1b

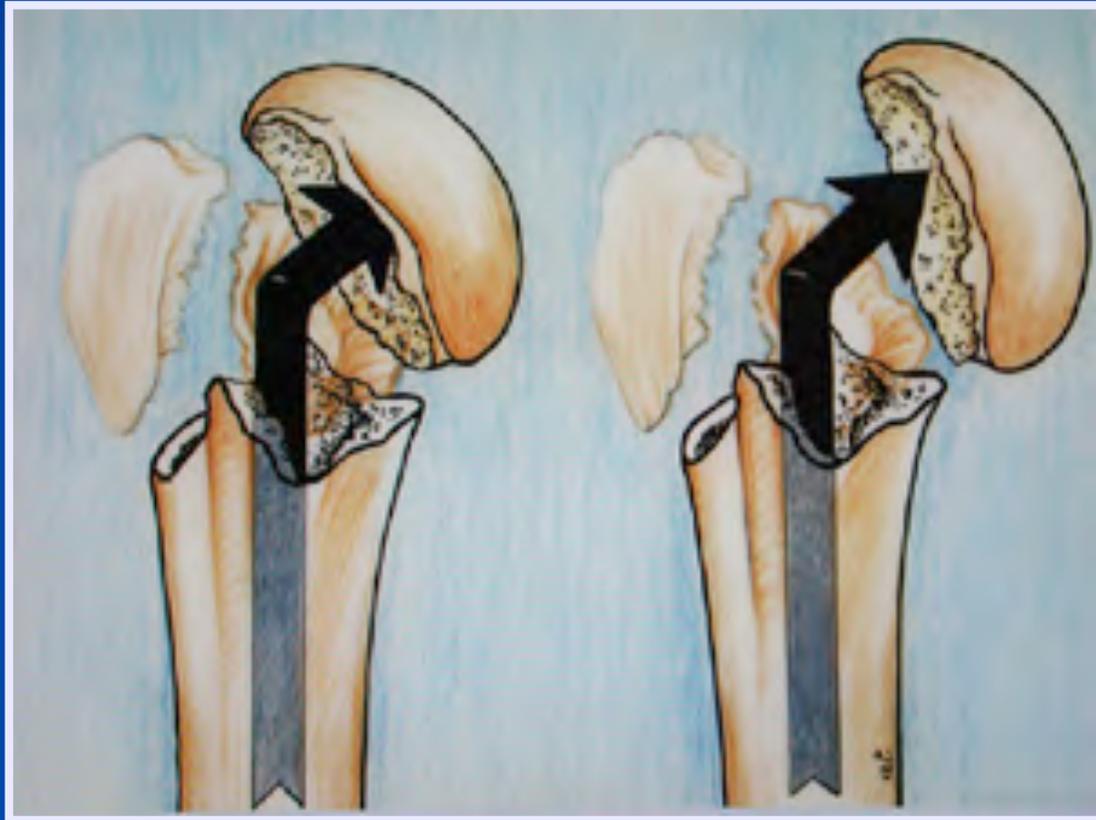
Fig. 1 Radiographs of a four-part fracture preoperatively (a) and after reduction and cerclage wire fixation (b).

J Bone Joint Surg [Br] 1997; 79-B; 412-7



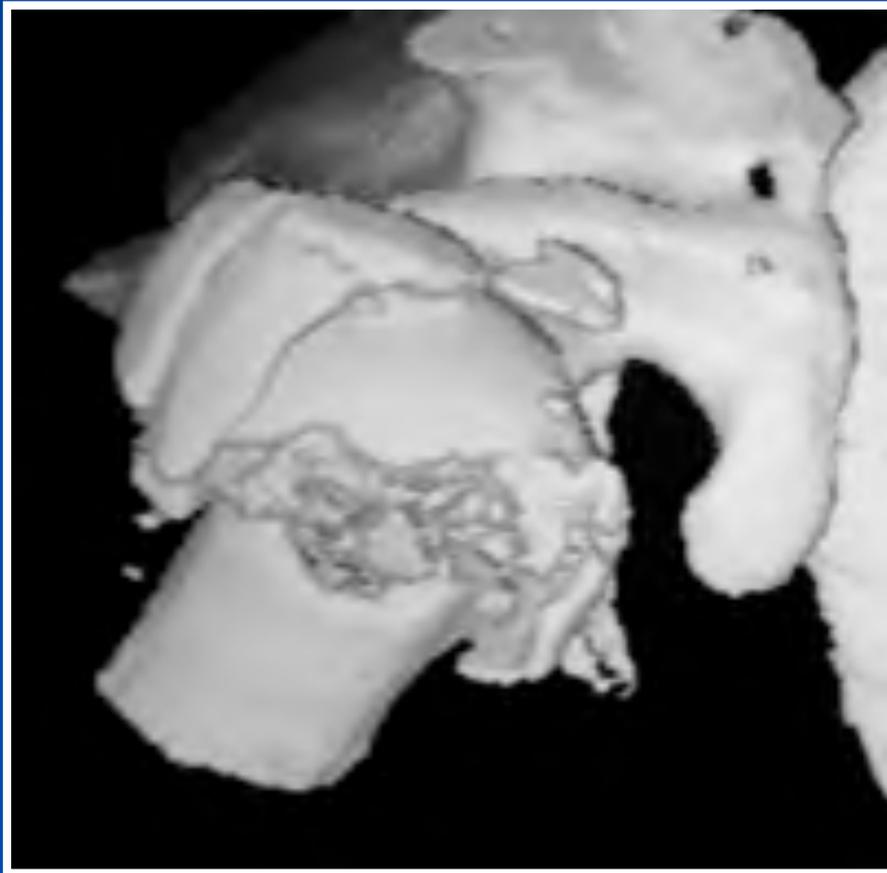
Back to
ORIF

Restaurer la hauteur humerale !!!

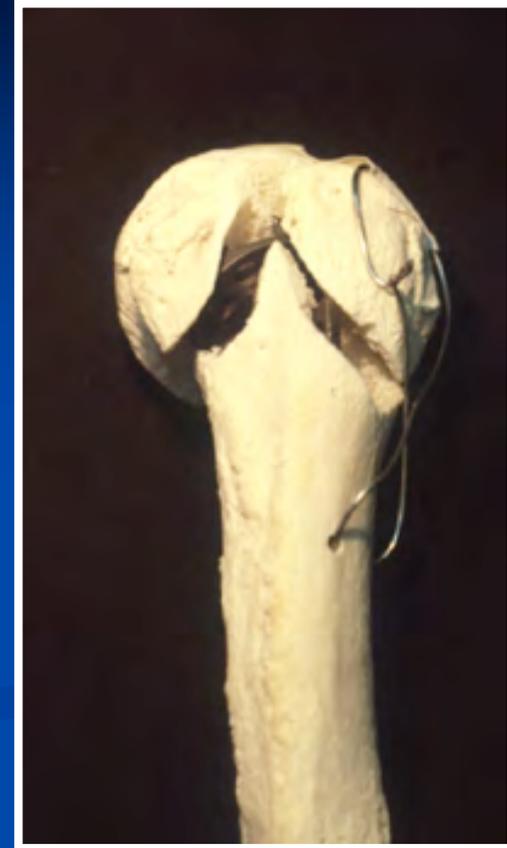


Restaurer la hauteur humerale

...



Bilboquet



avantages:

Axe solide reconstruction

Exposition limitée

Pas de conflit

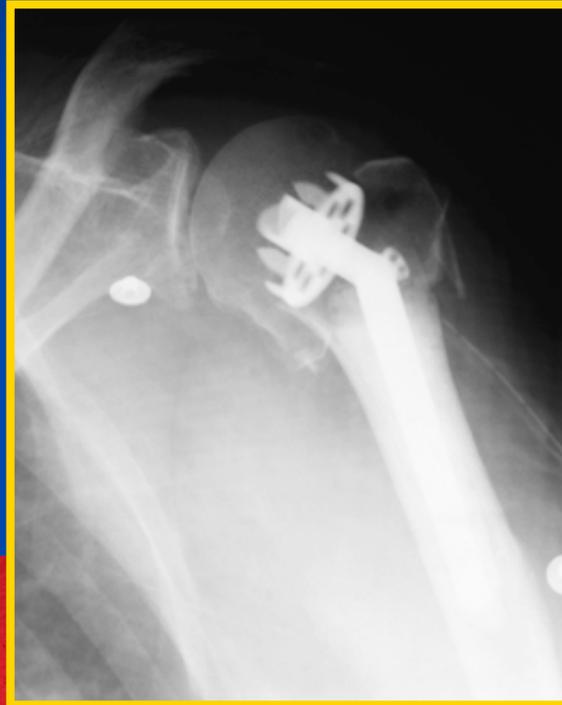
inconvénient:

prisonnier

Mrs D... 63 **4-fragments**
Recul : 4 ans



1991



1995



Mrs F... 75 - 4-part fracture

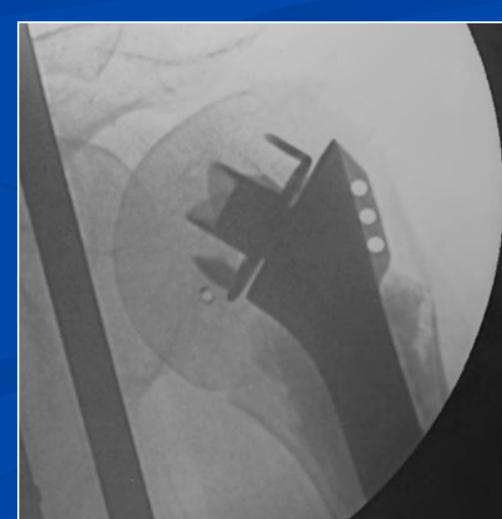
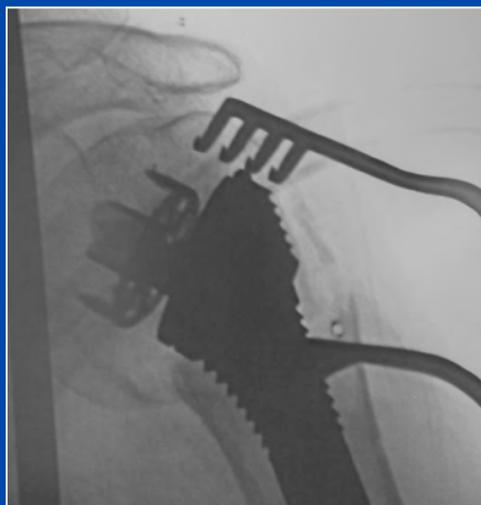
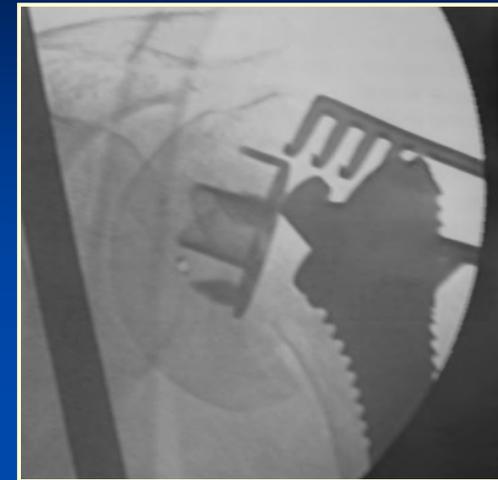
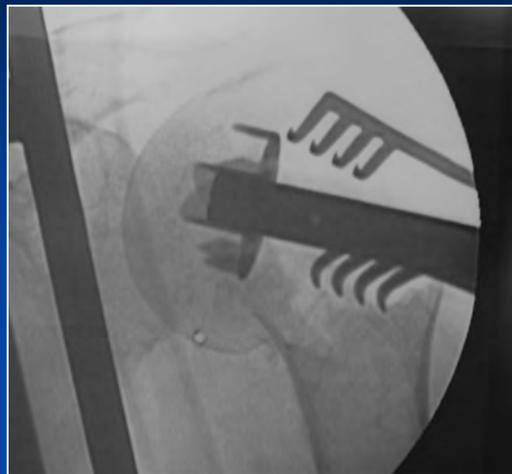


1996

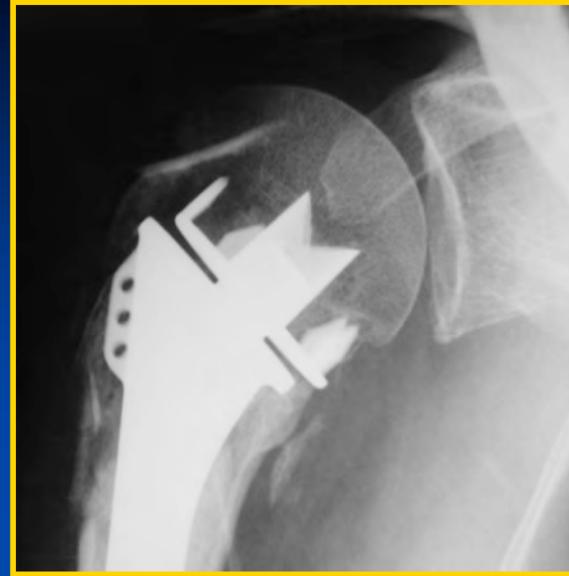


1998

M. C. 82 ans - fr. 3 fragments

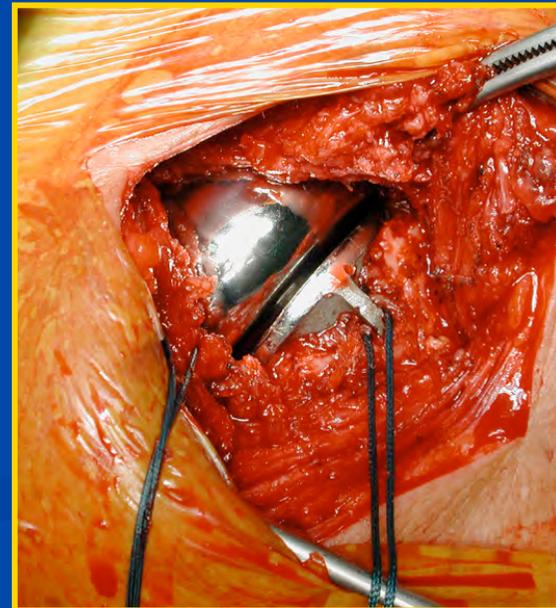


2000



Mrs O... 71 – 4-part

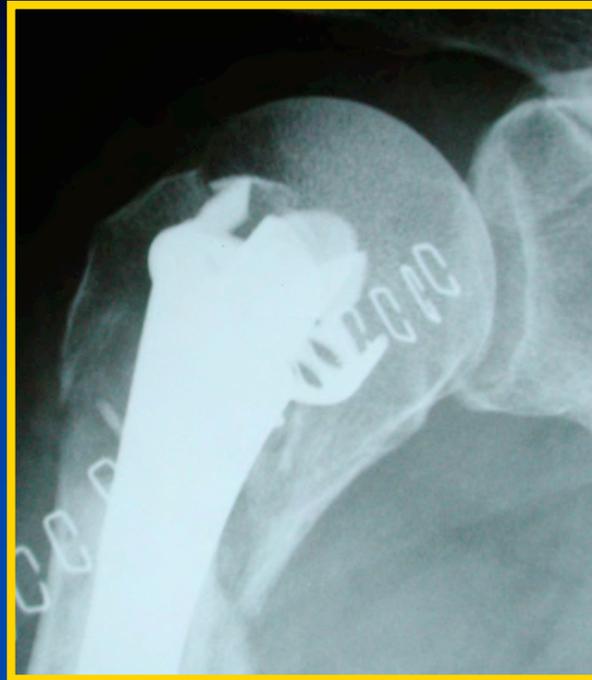
2001





2000

3 fragments



2002



Fractures-luxations



Postérieure



Postérieure

Réduction par manipulation



Antérieure





Age ↗ + comminution tubérosité + luxation
= Prothèse inversée ?



Merci de votre attention

