

Pr Thomas NERI MD, PhD

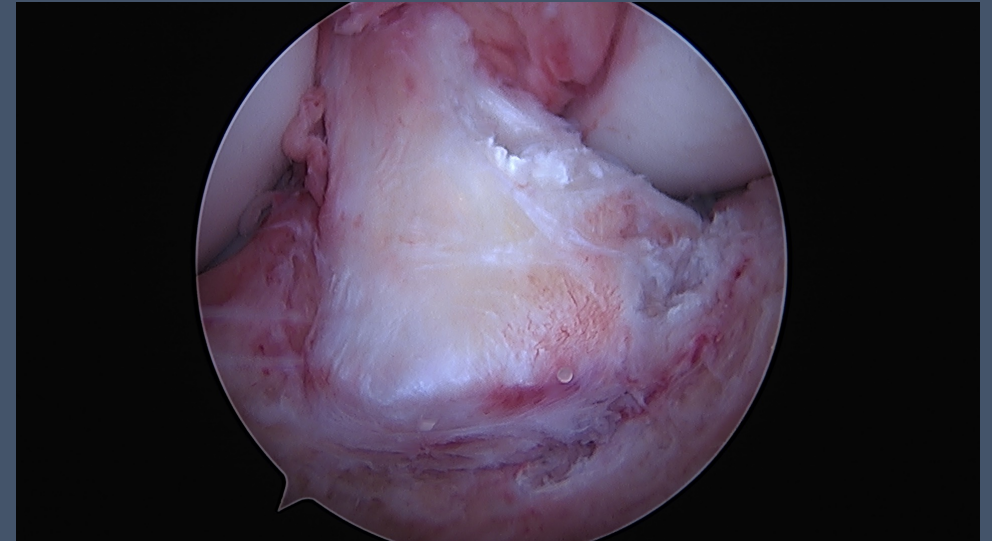
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How to deal with combined menisci and/or ligament injuries





Proximal tibial fracture + menisci and/or ligament injuries

Need to know how to do:

- Osteosynthesis: plateau tibial fracture and/or tibial spine fracture
- Meniscal repair/ meniscectomy
- Ligament reconstruction



Proximal tibial fracture + menisci and/or ligament injuries

Rules:

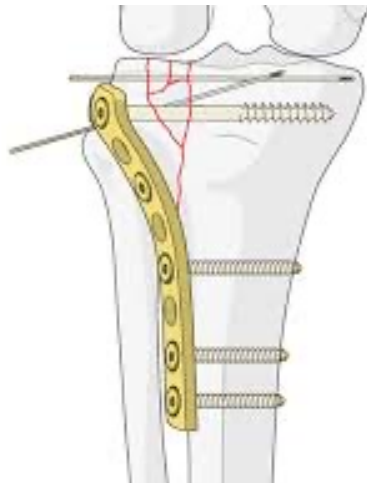
- First bone healing and then meniscal repair (except Bucket handle tear) & ligament reconstruction
- If osteosynthesis: anticipate tunnels of ligaments reconstruction (screws placement)
- Meniscal repair only if ligaments are functional
- Anticipate materials: ACLR, tibial spine fixation

Proximal tibial fracture + menisci and/or ligament injuries

Need to define a strategy:

-> in which order to proceed ?

Osteosynthesis/Meniscal repair/ligament reconstruction





1-Plateau tibial fracture + menisci

2-Plateau tibial fracture + menisci + ligament injuries

3-tibial spine fracture + menisci



1-Plateau tibial fracture + menisci

2-Plateau tibial fracture + menisci + ligament injuries

3-tibial spine fracture + menisci

1-Plateau tibial fracture + menisci

2-Plateau tibial fracture + menisci + ligament injuries

3-tibial spine fracture + menisci

Stable meniscus tear

Non surgical treatment
45 days (bony healing)

Rehabilitation

Meniscal repair at 3 months
(if needed)

Plateau tibial fracture
Non displaced

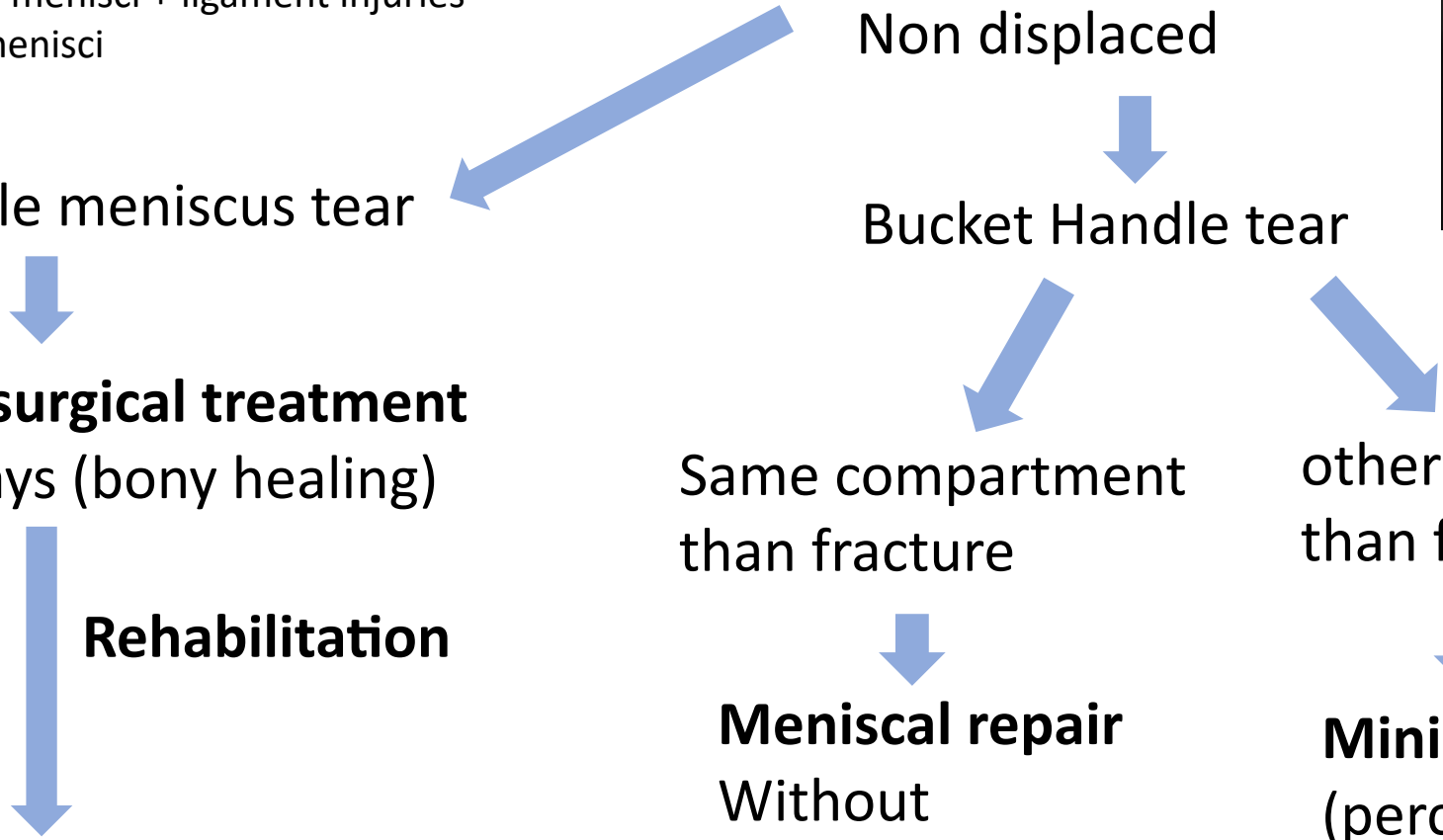
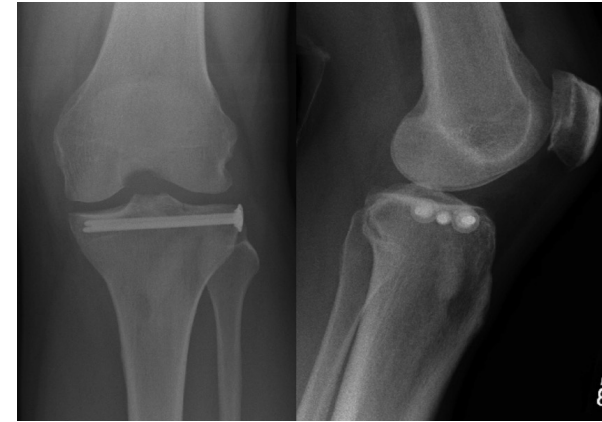
Bucket Handle tear

Same compartment
than fracture

Meniscal repair
Without
osteosynthesis

other compartment
than fracture

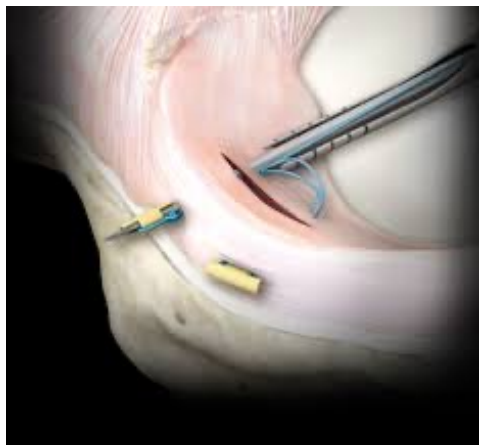
Minimal osteosynthesis
(percutaneous
canulated screw
Then **Meniscal repair**



1-Plateau tibial fracture + menisci

2-Plateau tibial fracture + menisci + ligament injuries

3-tibial spin fracture + menisci



Plateau tibial fracture
displaced



Fracture fixation



Meniscal repair in same surgical time

Through

- Arthroscopy
- Or same arthrotomy used for fracture



1-Plateau tibial fracture + menisci

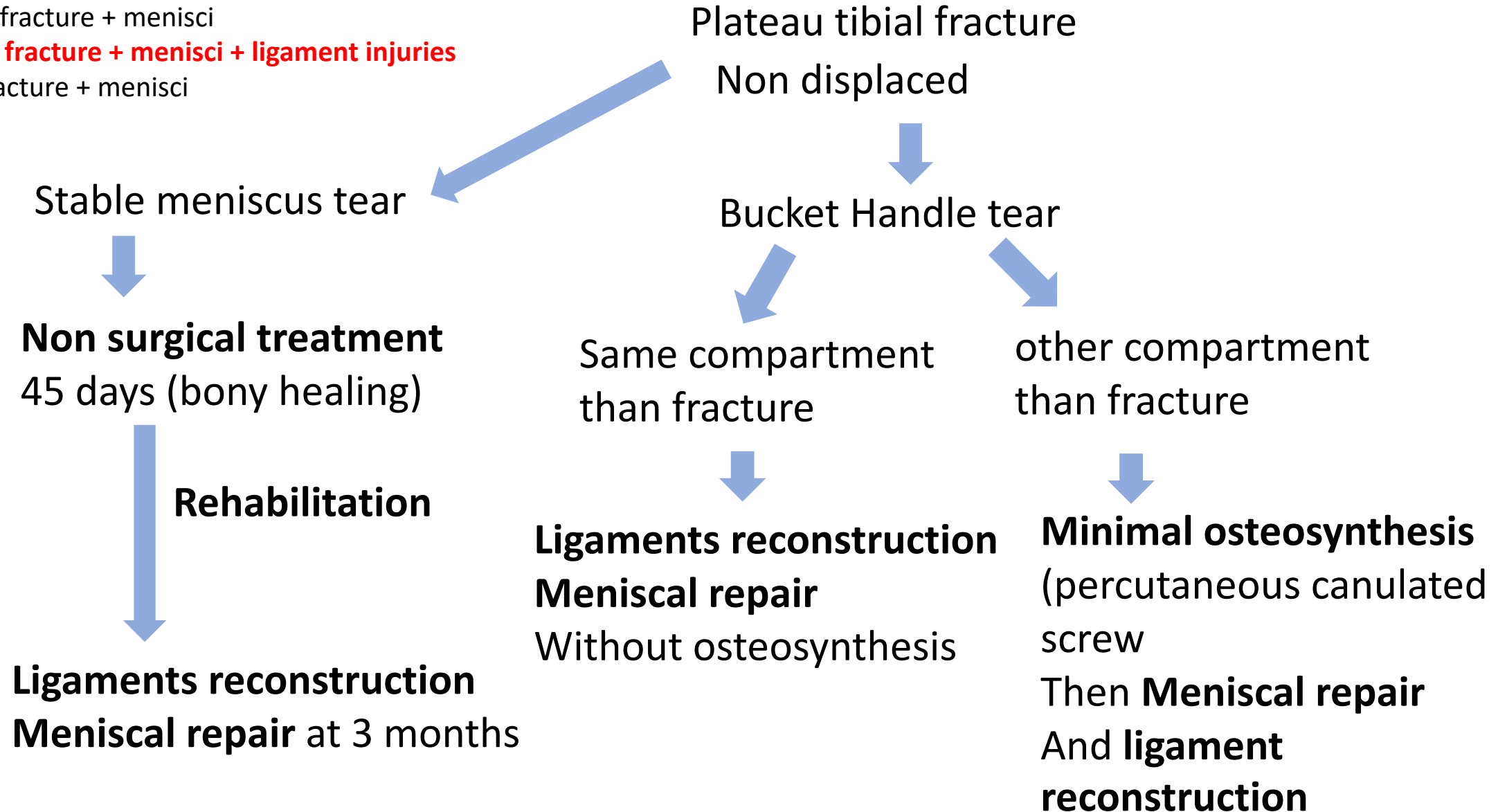
2-Plateau tibial fracture + menisci + ligament injuries

3-tibial spine fracture + menisci

1-Plateau tibial fracture + menisci

2-Plateau tibial fracture + menisci + ligament injuries

3-tibial spine fracture + menisci



1-Plateau tibial fracture + menisci

2-Plateau tibial fracture + menisci + ligament injuries

3-tibial spine fracture + menisci

Plateau tibial fracture
displaced



Fracture fixation

By anticipating tunnels of
ligament reconstruction



Rehabilitation

**Ligaments reconstruction
+ Meniscal repair at 3 months**



1-Plateau tibial fracture + menisci

2-Plateau tibial fracture + menisci + ligament injuries

3-tibiale spine fracture + menisci



- 1-Plateau tibial fracture + menisci
- 2-Plateau tibial fracture + menisci + ligament injuries
- 3-tibial spine fracture + menisci**

Tibial spine fracture
Non displaced

Stable meniscus tear

Bucket Handle tear

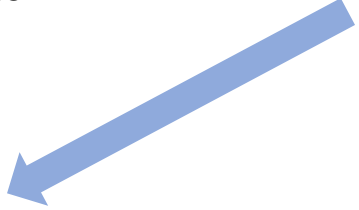
Non surgical treatment
45 days (bony healing)

Fixation of the spine
At minima

Rehabilitation

Meniscal repair

Meniscal repair at 3 months
(if needed)



1-Plateau tibial fracture + menisci

2-Plateau tibial fracture + menisci + ligament injuries

3-tibial spine fracture + menisci

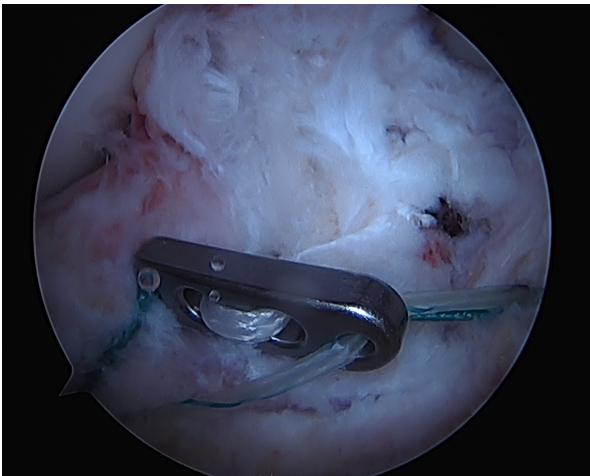
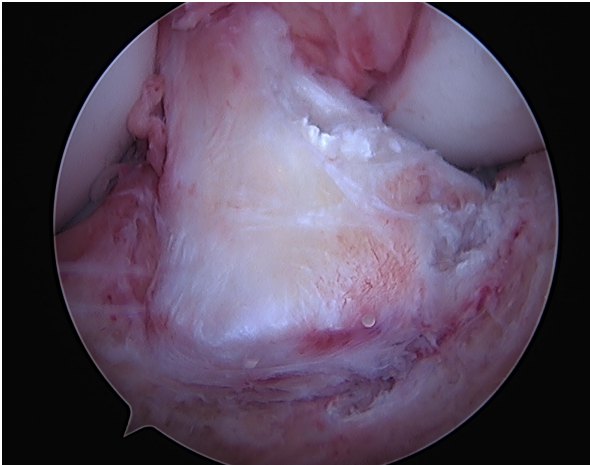
Tibial spine fracture
displaced



Meniscal repair



Fixation of the spine



*Technique of Nicolas Gravelleau
Courtesy of Nicolas Bougennec*



- **First bone healing** and **then meniscal repair** (except Bucket handle tear) & ligament reconstruction
- In case of non-operative treatment (non-displaced fracture), check the meniscus at 3 months: **meniscal repair only if it still symptomatic** (meniscal healing)
- **Meniscal repair only if ligaments are functional**: do ACLR+meniscal repair
- If osteosynthesis: **anticipate tunnels of ligaments reconstruction** (screws placement)
- **Anticipate materials**: tibial spine fracture, ligament reconstruction



Thank you for your attention

