

# CONGRESSO NAZIONALE SOCIETÀ ITALIANA FISSAZIONE ESTERNA

Fissazione esterna nel trattamento  
delle emergenze e traumi militari,  
tecniche di ricostruzione degli arti e  
trattamento degli esiti posttraumatici

ROMA

2025

16-17 MAGGIO 2025



# The use of ExFix and Lengthening nail in deformity corrections: how and why to choose them

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**SIMPOSIO**  
SABATO 17 MAGGIO

  
SIFE  
SOCIETÀ ITALIANA  
FISSAZIONE ESTERNA

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**EXTERNAL FIXATION  
VS LENGTHENING NAIL:  
COMPETITORS OR COMPLEMENTARY TOOLS?**

**Moderatori: M. Catagni - R. Rozbruch**



*A bone deformity is an atypical deviation or distortion of the bone from its normal alignment, shape, length or size*

Bones deformities can be:

- **Congenital** - they can be inherited, often related to specific pathologies
- **Developmental** - they can occur from abnormal growth during childhood
- **Post-traumatic** - they are the result of an improperly healed fracture





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Bones may be deformed in four ways:

- **Angulation**, a bend in the bone
- **Rotation** or **torsion**, a twist in the bone
- **Translation** or **displacement**, a shift in the position of the bone
- **Limb length discrepancy**, a difference in the length of a bone compared with the other side

*Although each of the different types of bone deformities can exist on its own, it is very common to see combinations of two or more of these deformity components together*

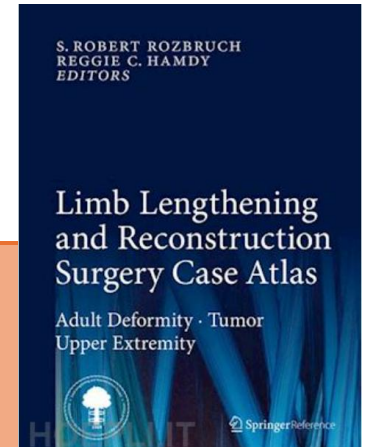
*→ Complex/multiplanar deformities*

Deformities can be corrected different ways:

- **Acute correction**, all at once during a surgical procedure
- **Gradual correction**, slowly over the course of several weeks or months
- **Combined acute and gradual correction**



- ❖ Age of the patient
- ❖ Amount to be corrected
- ❖ Site of the deformity
- ❖ Status of the surrounding soft tissues
- ❖ Quality of the bone to be corrected
- ❖ Associated limb length discrepancy
- ❖ Amount of bone to be resected





Boxing night

# ExFix

VS

# Lengthening nail

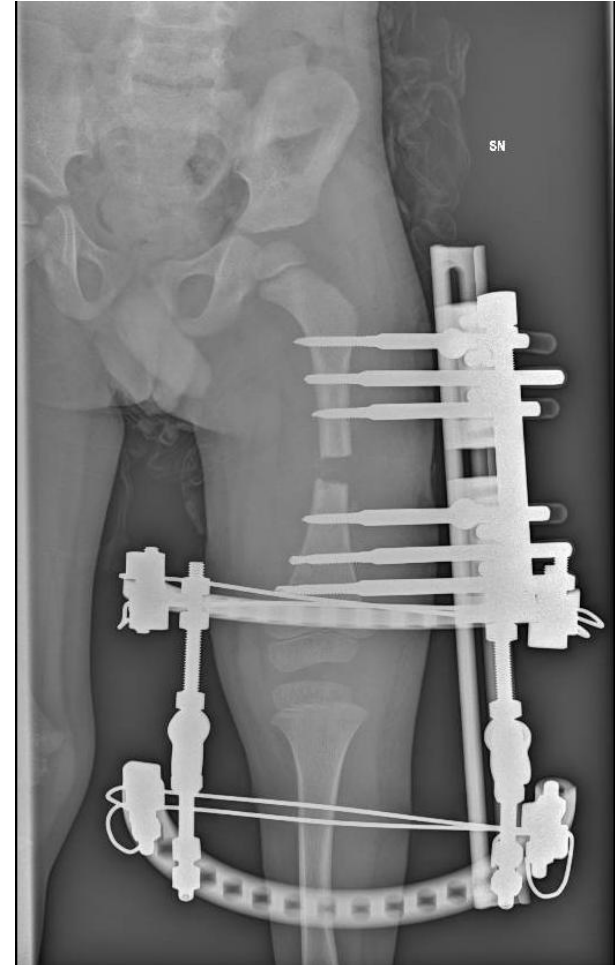
- Extremely versatile
- Allows ongoing adjustments
- Allows early weightbearing
- Can be used in case of infection
- Less risk of neurovascular complications



- Greater family and patient compliance
- Physiotherapy is easier



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**Case 1***Male, 4 years old**CFD + fibular hemimelia with agenesis of the cruciate ligaments*

Distraction



**Case 2**

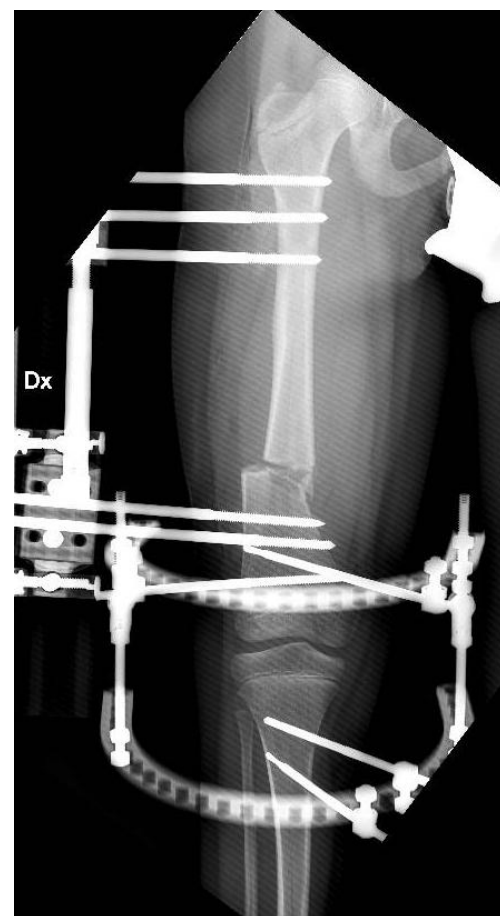
Female, 8 years old

*CFD with agenesi of the cruciate ligaments*

5 years old



Day of surgery

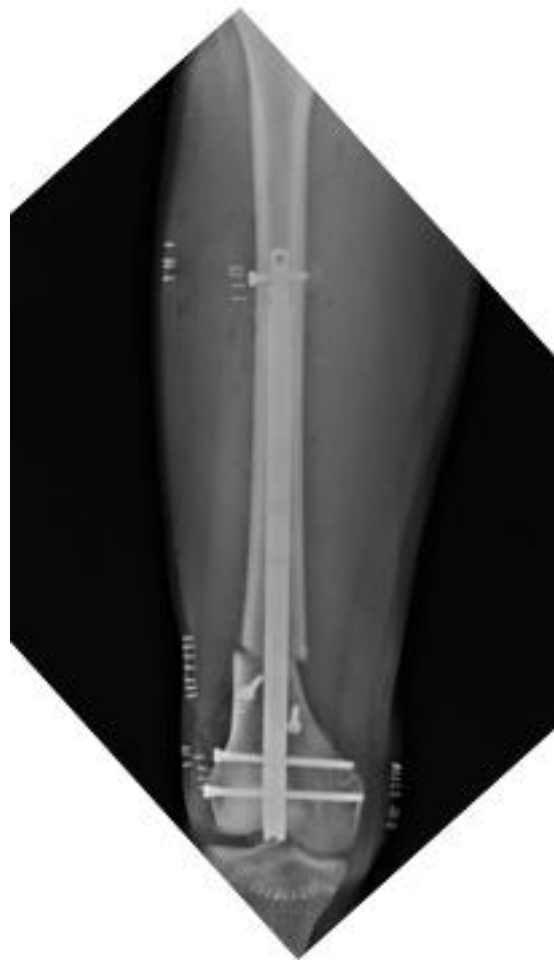


Distraction



**Case 3**

Male, 14 years

*Short and valgus femur  
in previous distal femoral SH V at the  
age of 9*

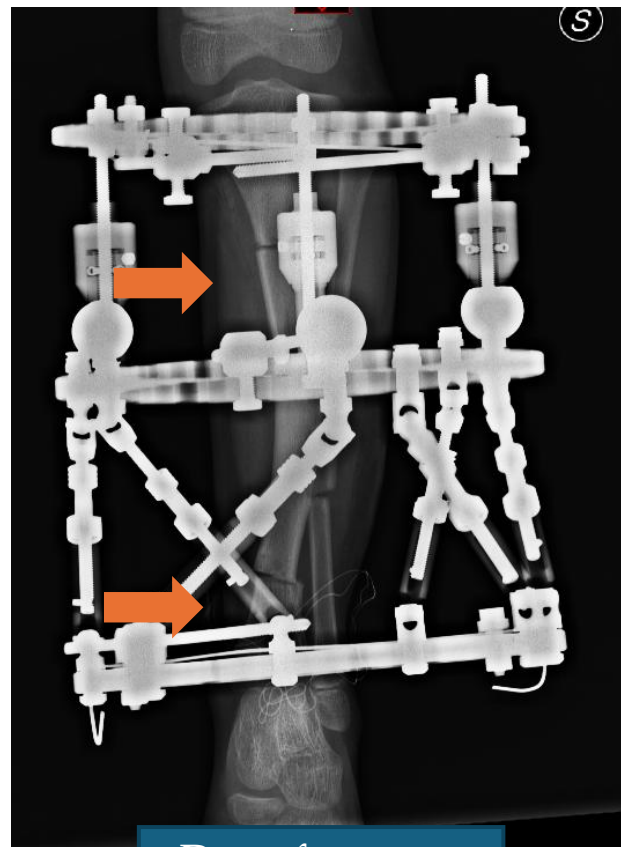
Day of surgery



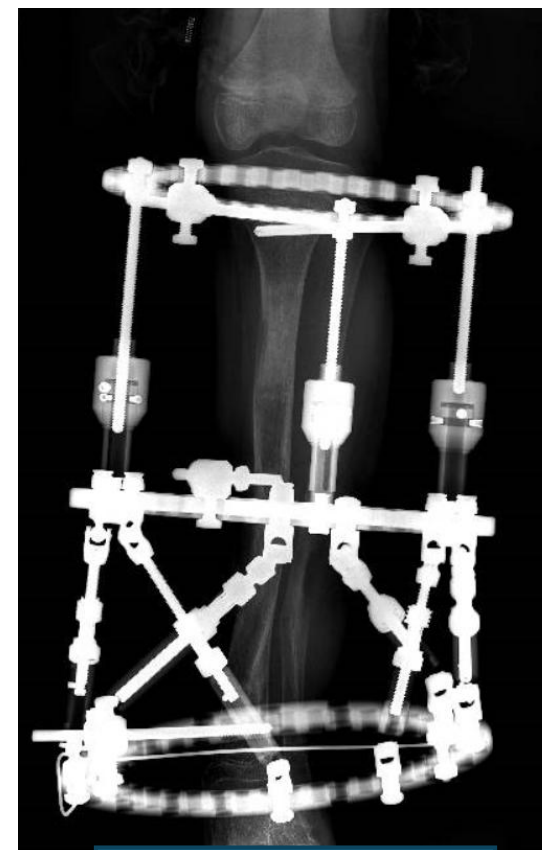
End of correction

**Case 4**

Male, 9 years old

*Congenital Pseudoarthrosis of Tibia*

Day of surgery



End of correction

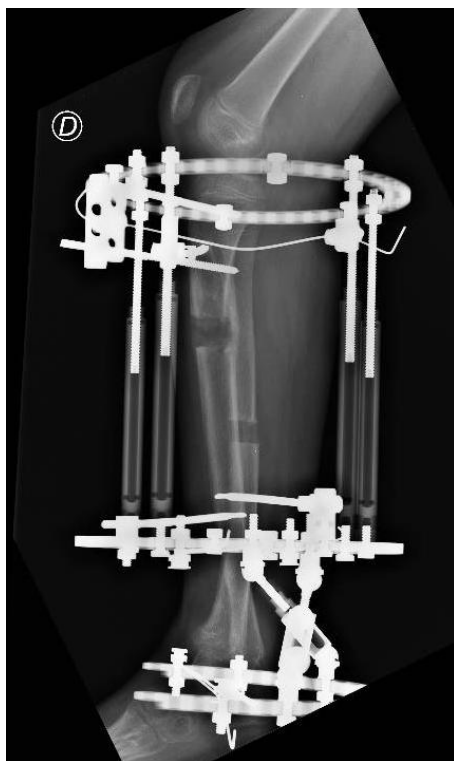
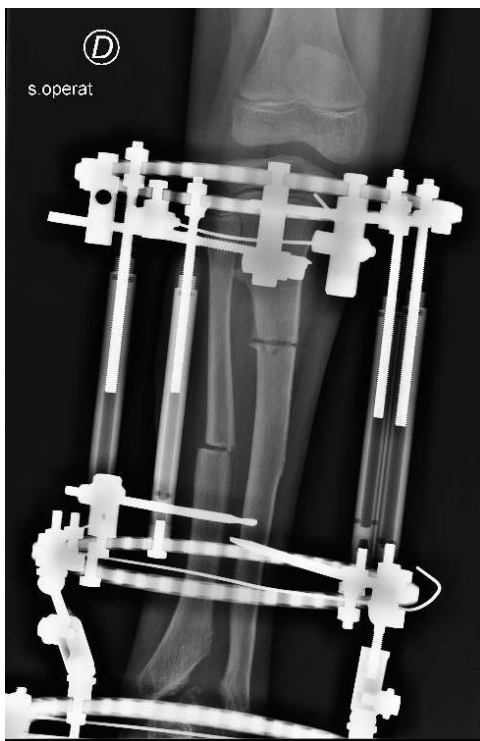


End of treatment

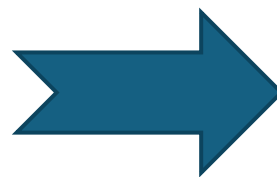


**Case 5**

Male 10

*Tibial Hemimelia and ankle complex deformity*

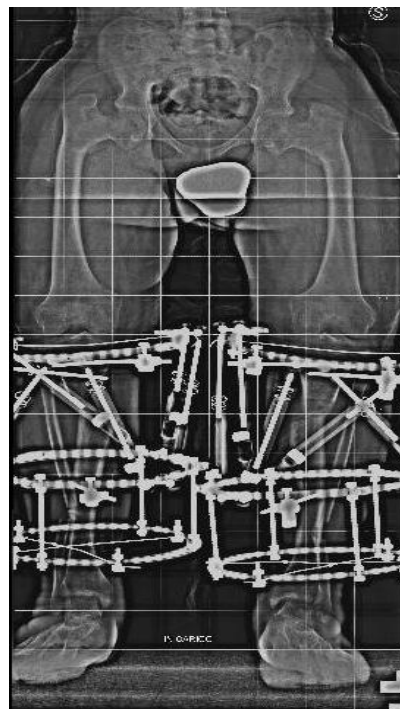
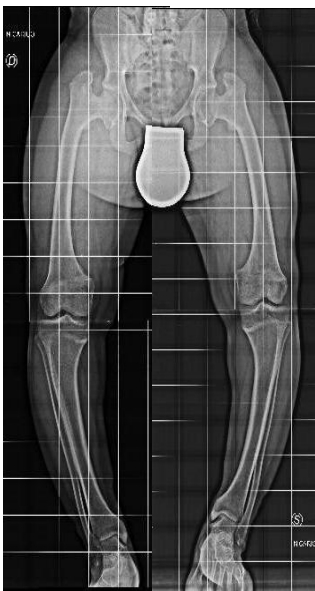
Day of surgery 1, 10 yr



Day of surgery 2, 14yr

## Case 6

Male, 14 years old

*Dwarfism, 130 cm femoral and tibial varus*

Tibial correction with Hexapod



**Case 6**

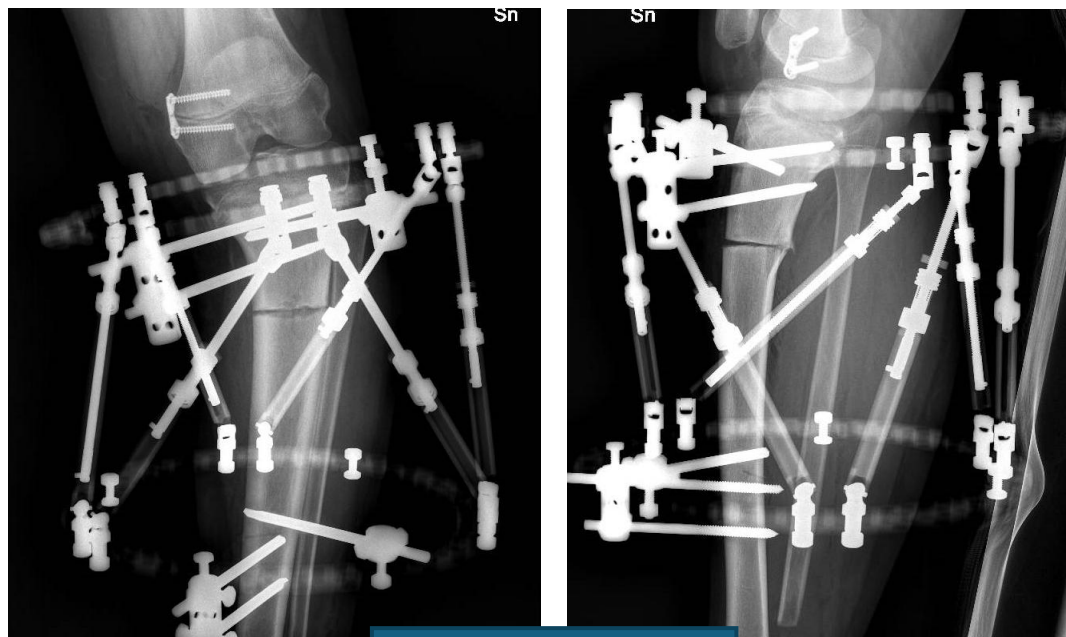
Male, 14 years old

*Dwarfism, 130 cm femural and tibial varus*End of tibial  
correctionFemoral lengthening  
with nailProximal valgus  
osteotomy

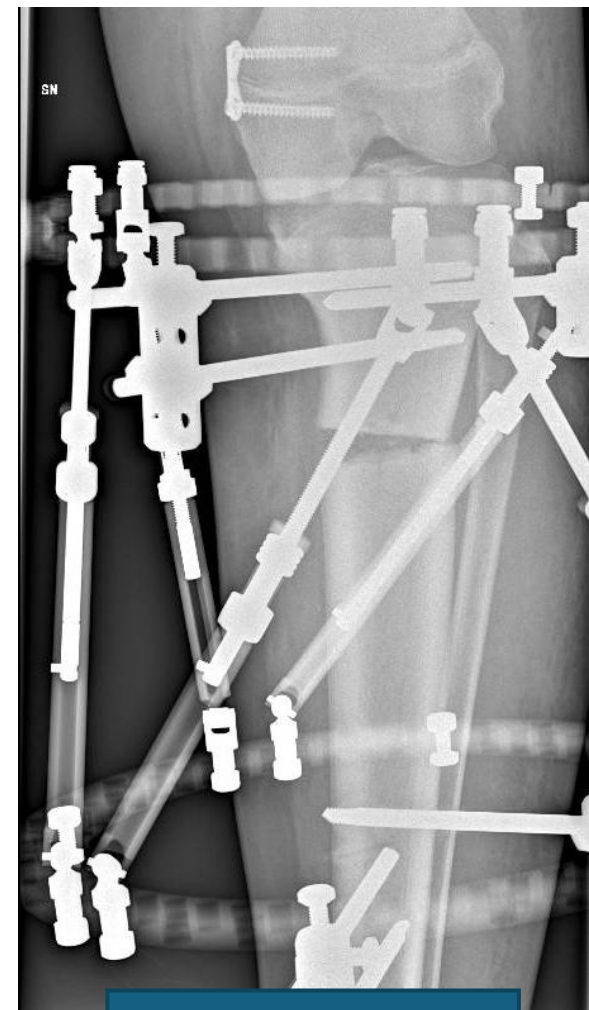
End of treatment

**Case 7**

Male, 13 years old

*Bilateral Blount disease*

Day of surgery

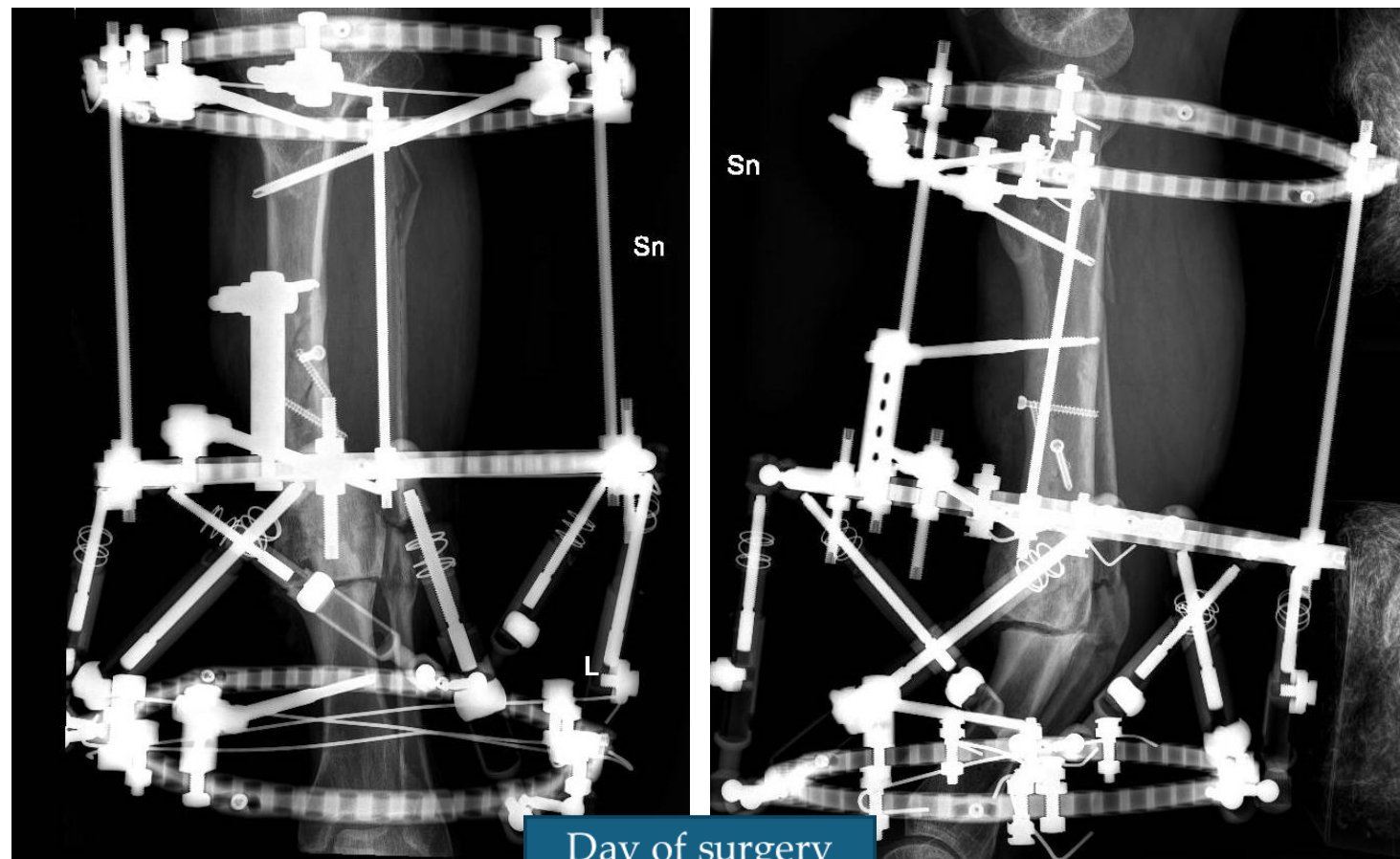


Correction



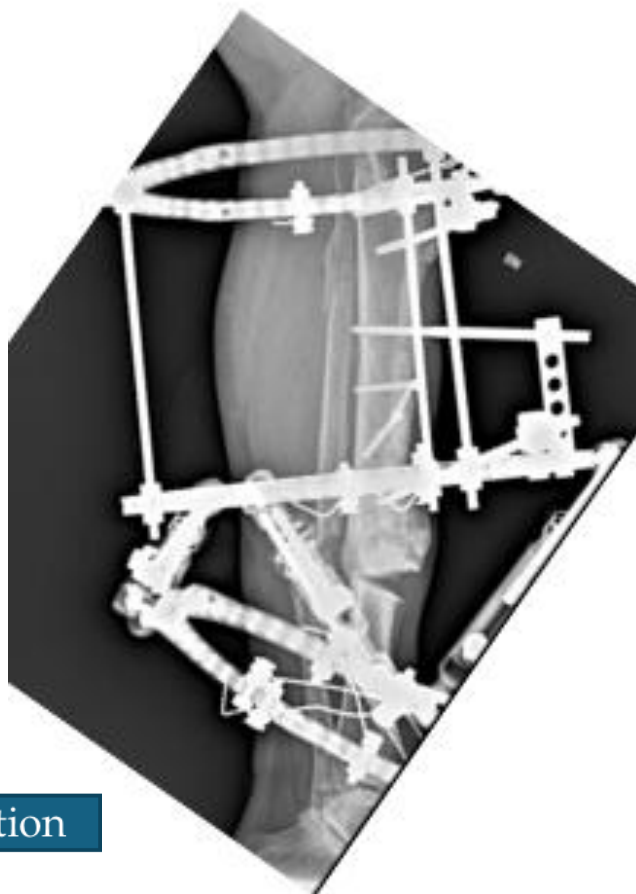
**Case 8**

Male, 38 years old

*Tibial fracture in prior post-traumatic deformity*

**Case 8**

Male, 38 years old

*Tibial fracture in prior post-traumatic deformity*

End of correction



## CONCLUSION AND TAKE HOME MESSAGE

- *Lower limb complex deformities have no pre-ordinate solution*
- *Each case have to be studied considering age, deformity, its etiopathogenesis and possible development of the deformity*
- *Keep in mind not only the bone but also the articular position and function*
- *Sometimes we can have several and different tools to reach out our goal: choose the one that gives more comfort to the patient and caregivers*

AT THE END...

..it's not a fight!

