

# How to deal with old knees in young patients

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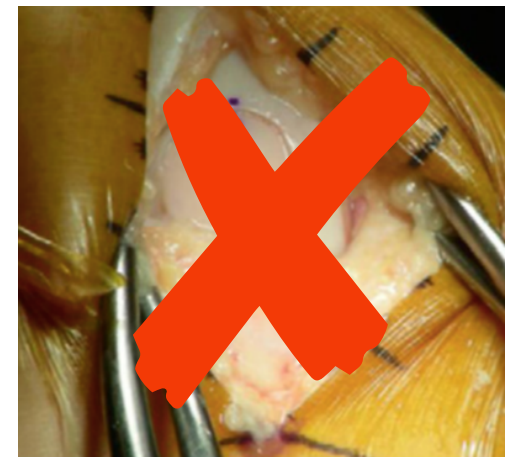
- We know (almost) what is a young patient
- What is an old knee?

# Old knee

Knee arthroplasty



- Cartilage and meniscus lesion
  - Cartilage lesion is diffuse: Osteoarthritis
  - Lack of meniscus: partial or total
- and sometimes instability

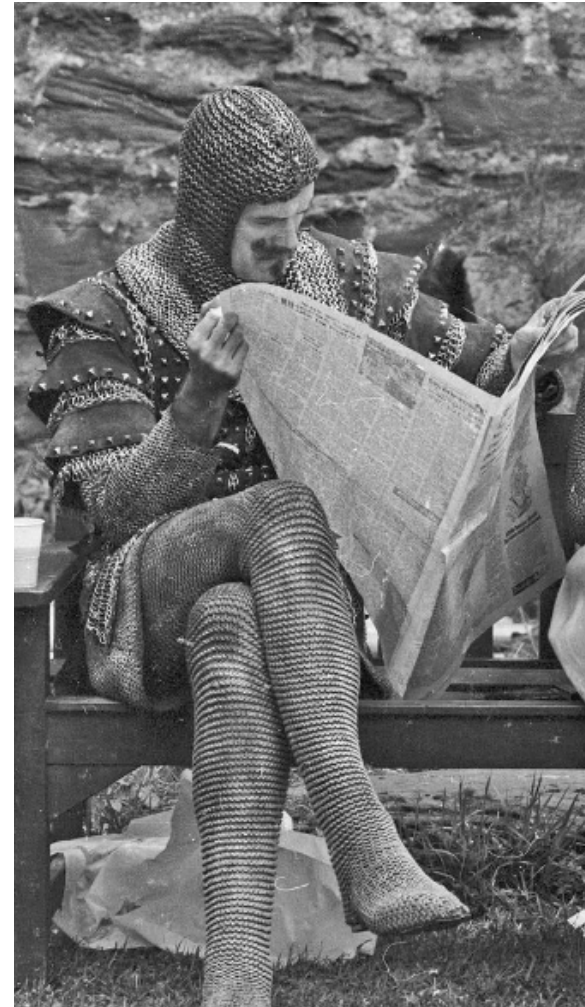


# My algorithm

**Experience**

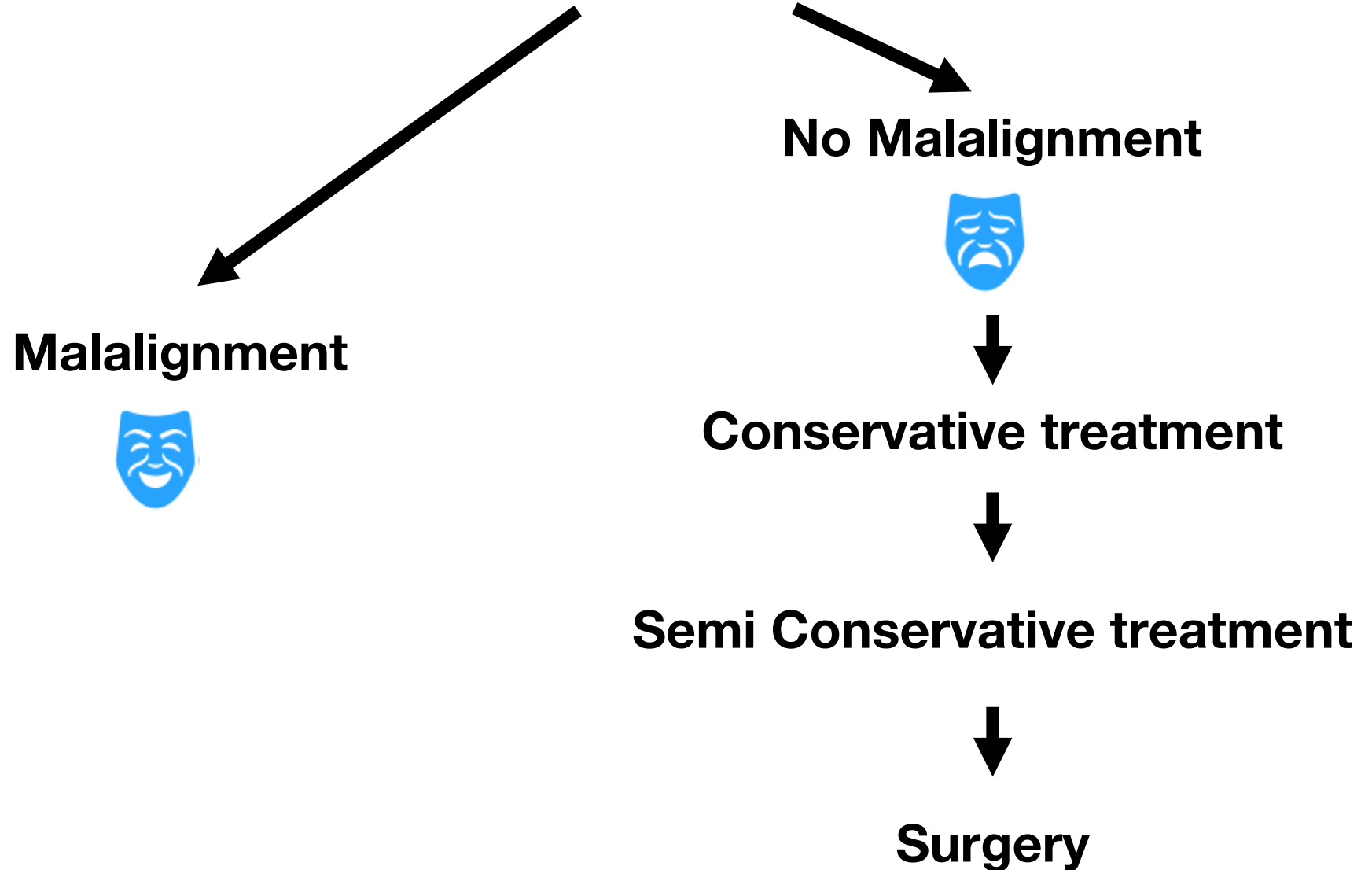


**Evidence**

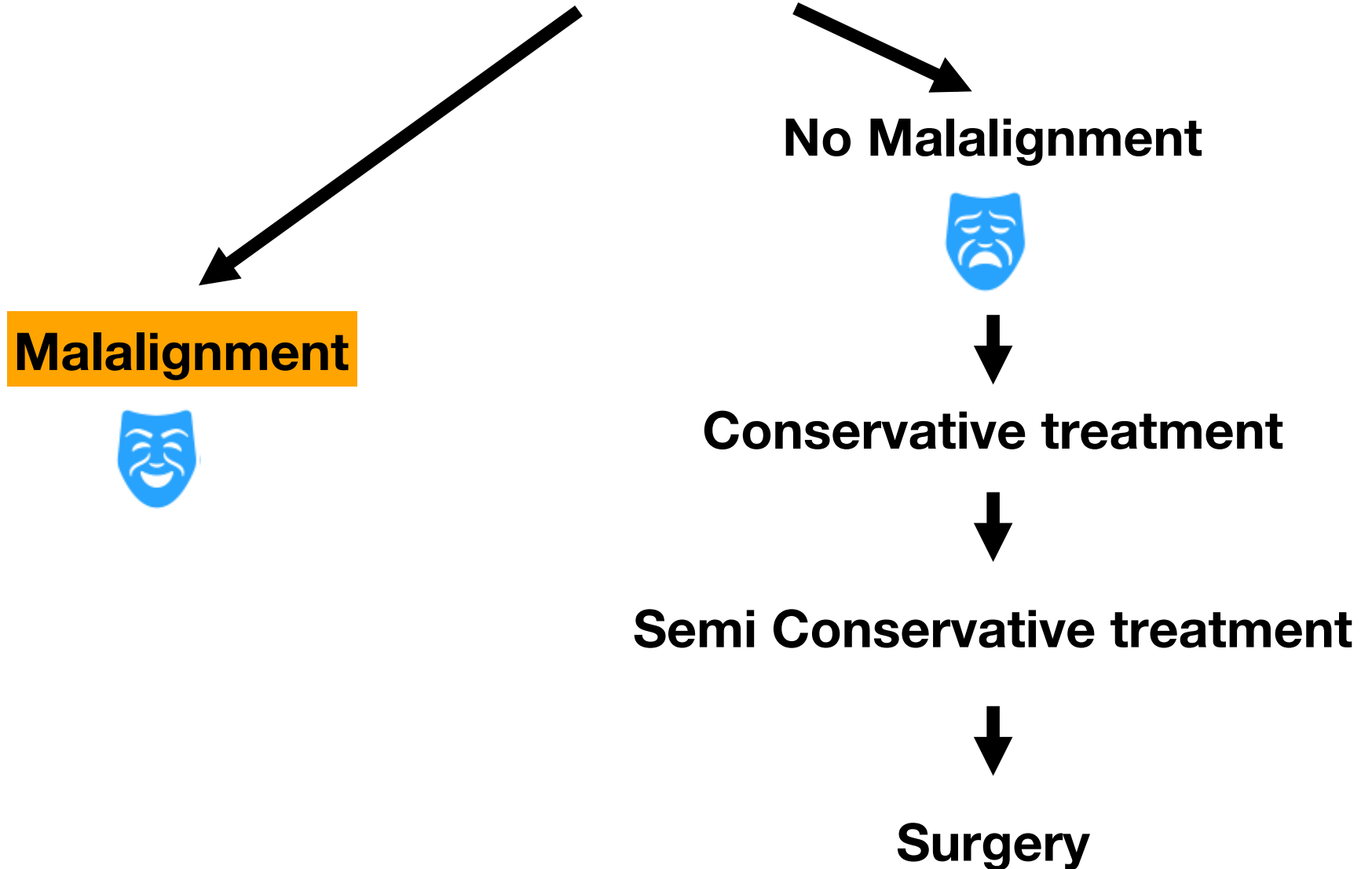




# Algorithm



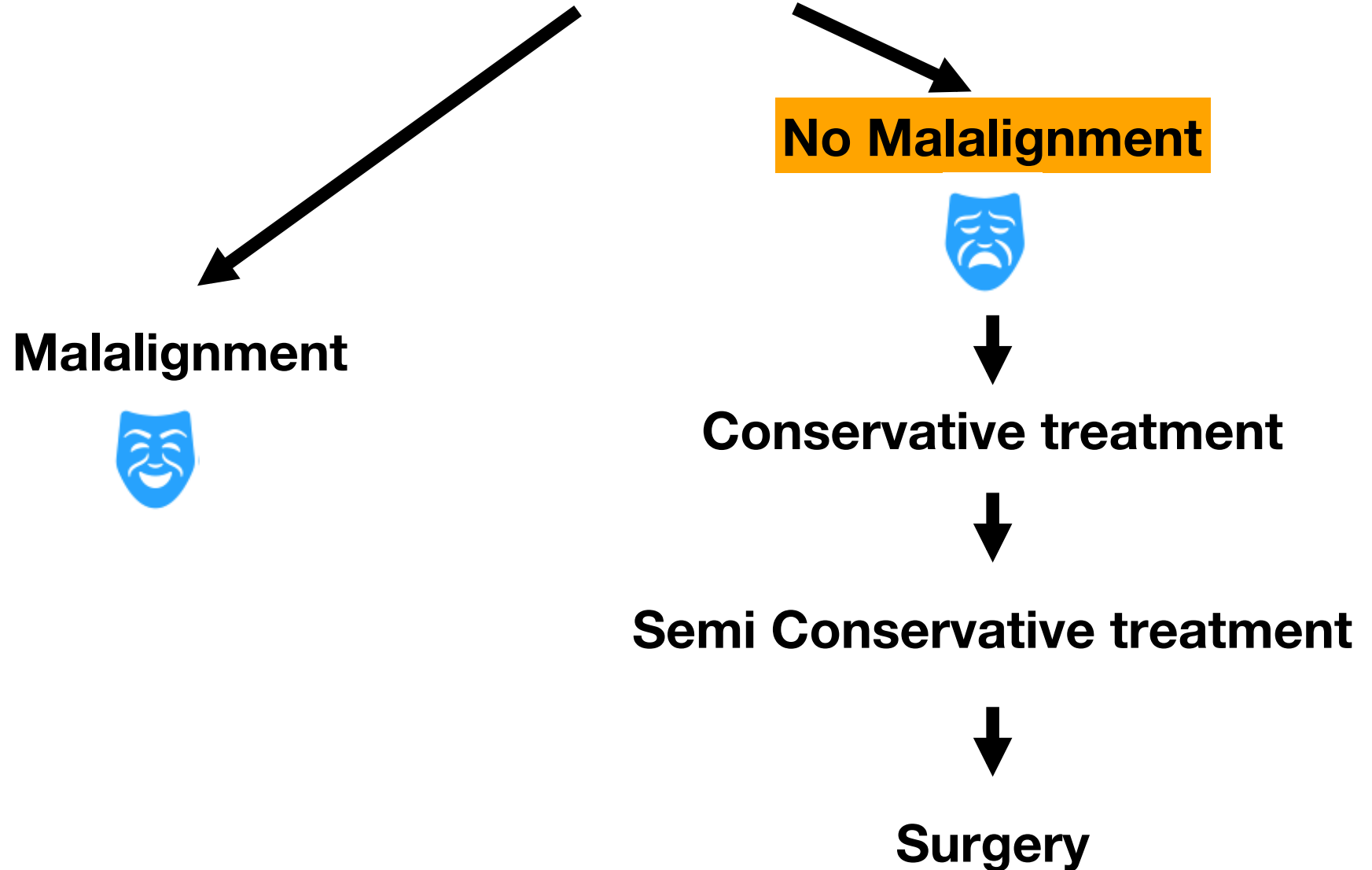
# Algorithm



# Malalignment



# Algorithm



# No malalignment

- What is the real complaint? ✓

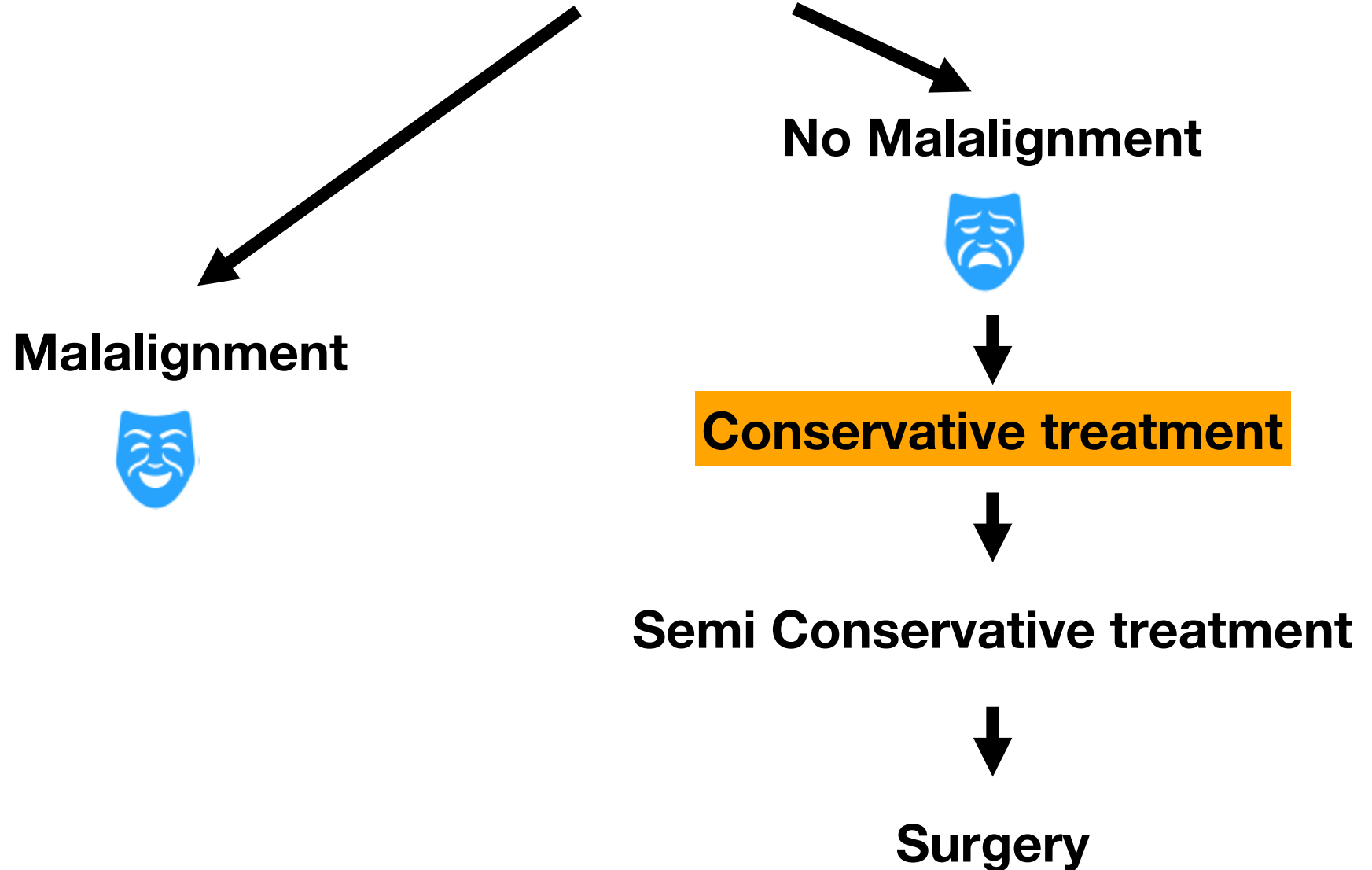
- What is the expectation ✓

- Patient information ✓

- Be honest ✓



# Algorithm



# Conservative treatment

- Education
- Weight control
- Hygiene (smoker)
- Physiotherapy
  - Muscle deficit
  - flessum...

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## Exercise is Medicine® Qatar Clinic

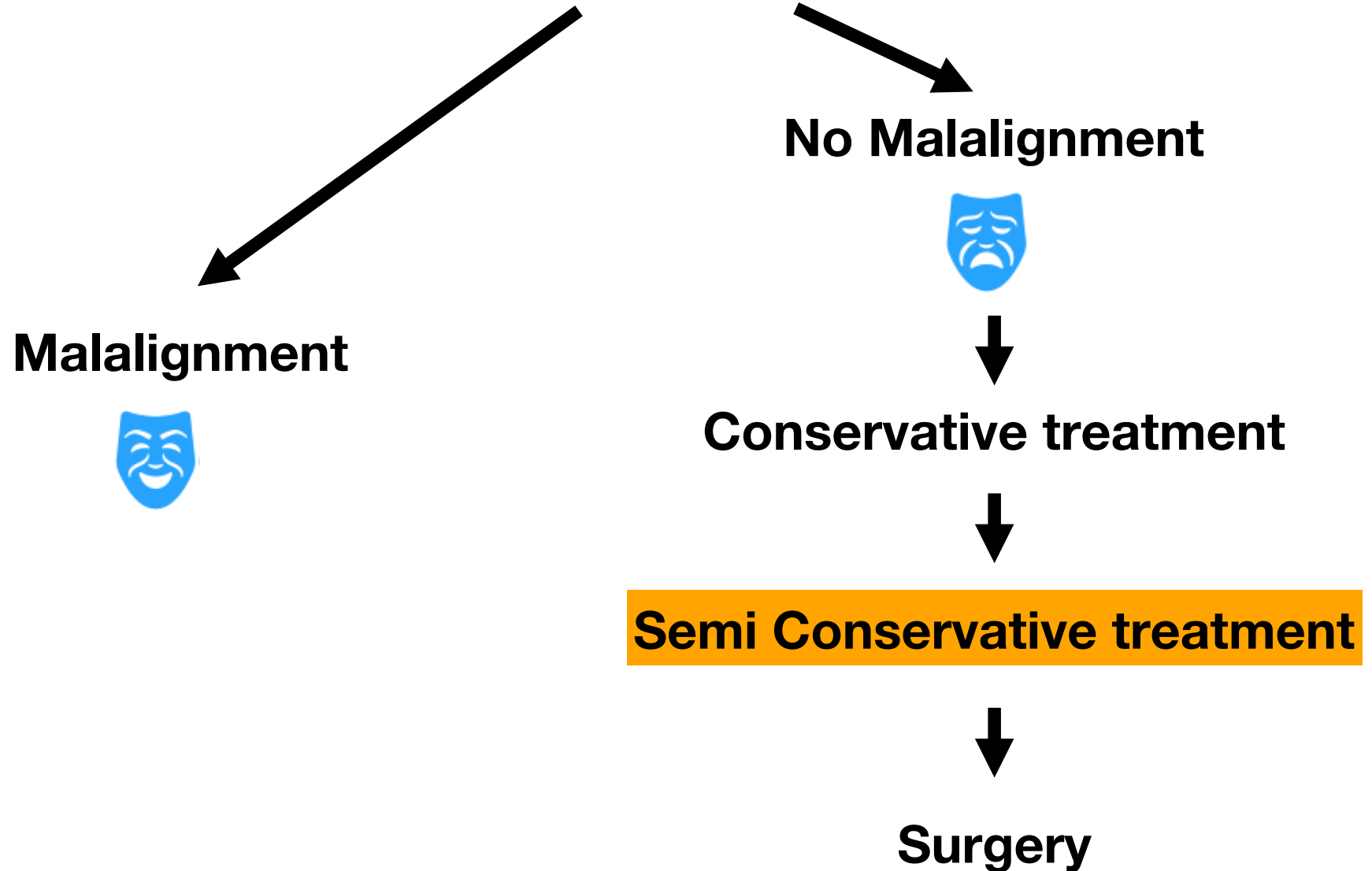
**Exercise is Medicine (EIM)**

- [EIM Department](#)
- [Step into Health](#)
- [Namat](#)
- [Exercise is Medicine](#)

## Step into Health Programme (SIH)

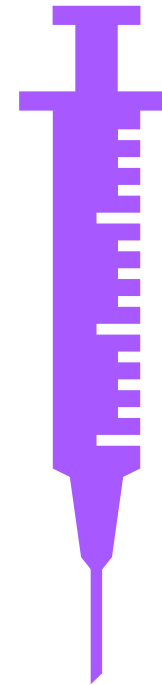


# Algorithm



# Semi Conservative treatment

- Hyaluronic acid injection
- PRP injection
- Stem cells



“Needle treatment”

# PRP: Clinical evidence?

- In general, PRP has been shown to promote chondrogenic differentiation in vitro and lead to enhanced cartilage repair during animal investigations. Human trials, mostly conducted in the form of injection into knees with osteoarthritis, have shown promise in a number of investigations for achieving symptomatic relief of **pain** and improving **function**.

**Abrams et al. 2013**



# Stem cells: Clinical evidence?

- Identification of 72 preclinical papers and 18 clinical trials
- Among the 18 clinical trials:
- None were randomized, five were comparative, six were case series, and seven were case reports
- 2 concerned the use of **adipose-derived MSCs**, 5 the use of **bone marrow concentrate**, and 11 the use of **bone marrow-derived MSCs**

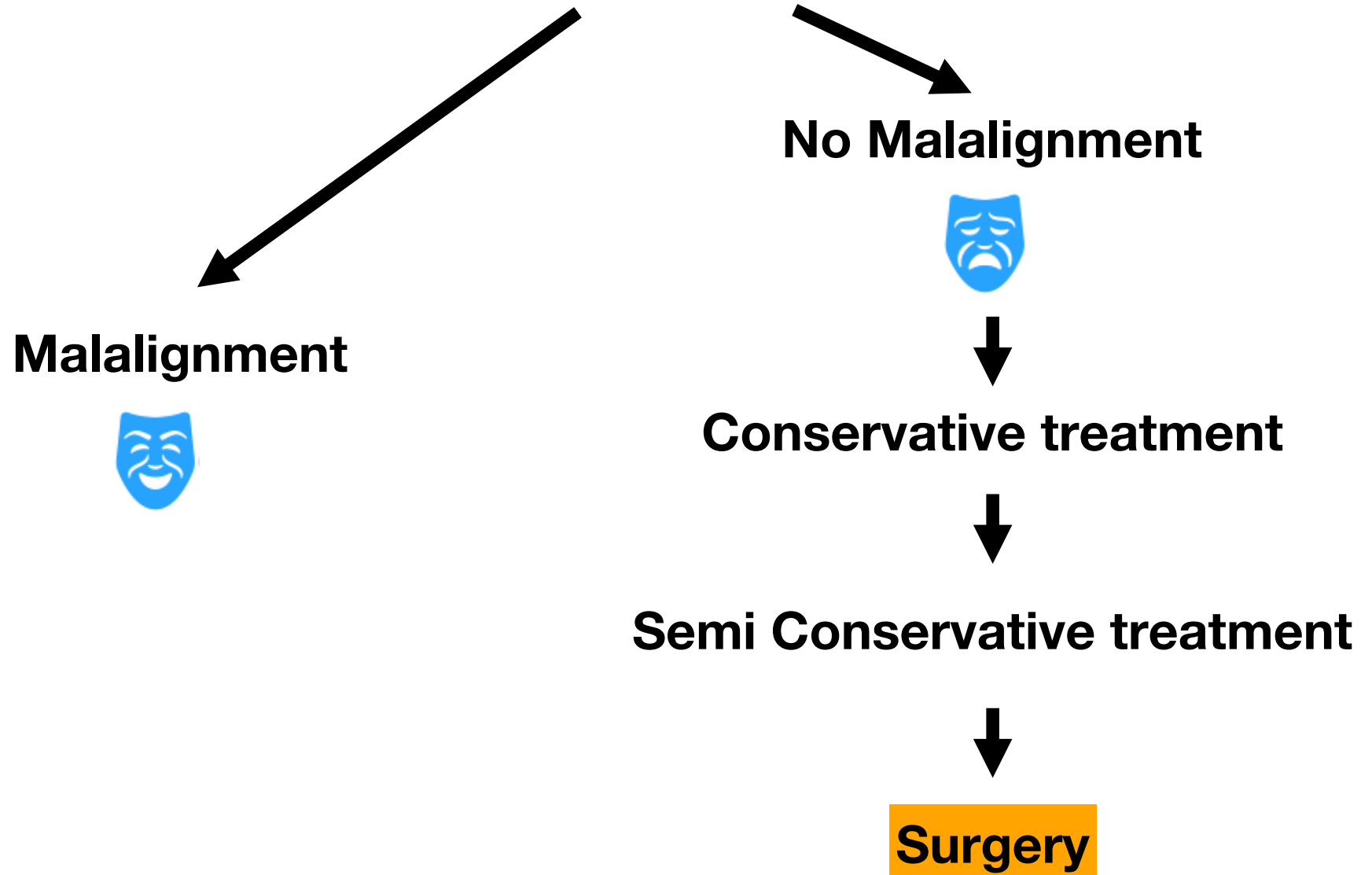
**Mesenchymal stem cells for the treatment of cartilage lesions:  
from preclinical findings to clinical application in orthopaedics**

Giuseppe Filardo · Henning Madry ·  
Mislav Jelic · Alice Roffi · Magali Cucchiaroni ·  
Elizaveta Kon

# Stem cells: Clinical evidence?

- **“Knowledge on this topic is still preliminary, as shown by the prevalence of preclinical studies and, among the clinical findings, the presence of low-quality studies.”**
- Some tendance:
  - synovium-derived MSCs have the best potential for chondrogenesis, followed by bone marrow-derived and periosteum-derived MSCs.

# Algorithm



# Surgery

## ICRS Grade 3 an 4

- Arthroscopy
- Cartilage
- Meniscus

Size (cm <sup>2</sup> )	Procedure
< 2	Microfracture (+/- augmentation) Mosaicplasty (high demand)
2 - 4	Mosaicplasty (bone loss) ACI
> 4	ACI Osteochondral allograft (bone loss)

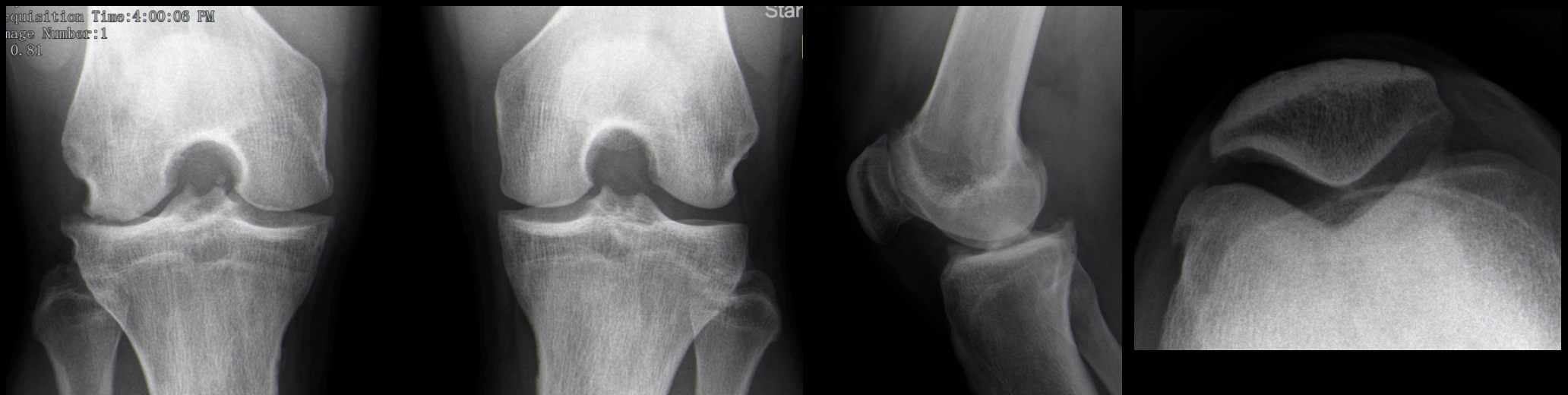
Debr~~iment~~

# 32 yo professional football

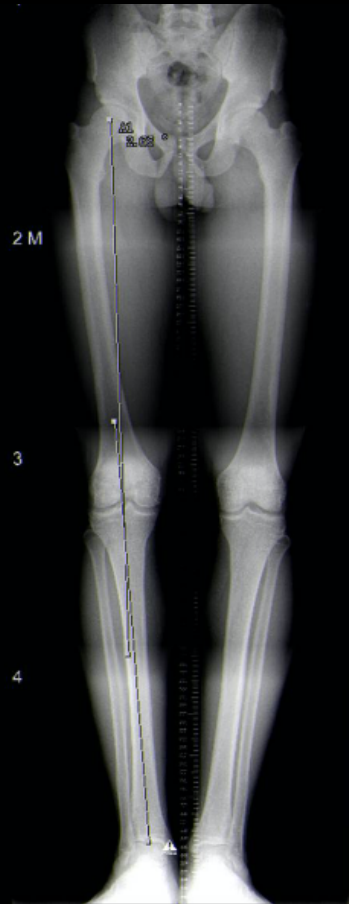
- Partial lateral meniscectomy 10 years before
- Right knee lateral chronic pain: 2 years
- Unable to play all matches: pain, swelling
- Tried rest, physiotherapy, hyaluronic acid, PRP
- PE: Limited motion, no laxity



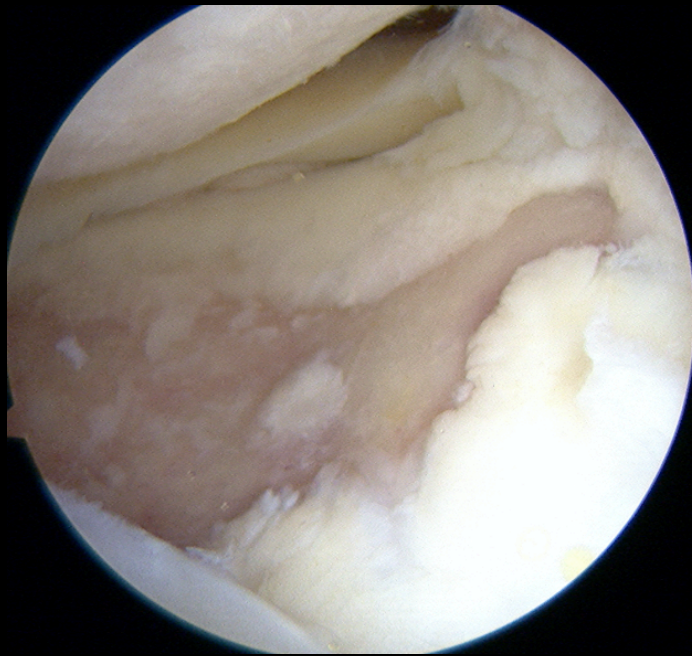
# 32 yo professional football



# 32 yo professional football

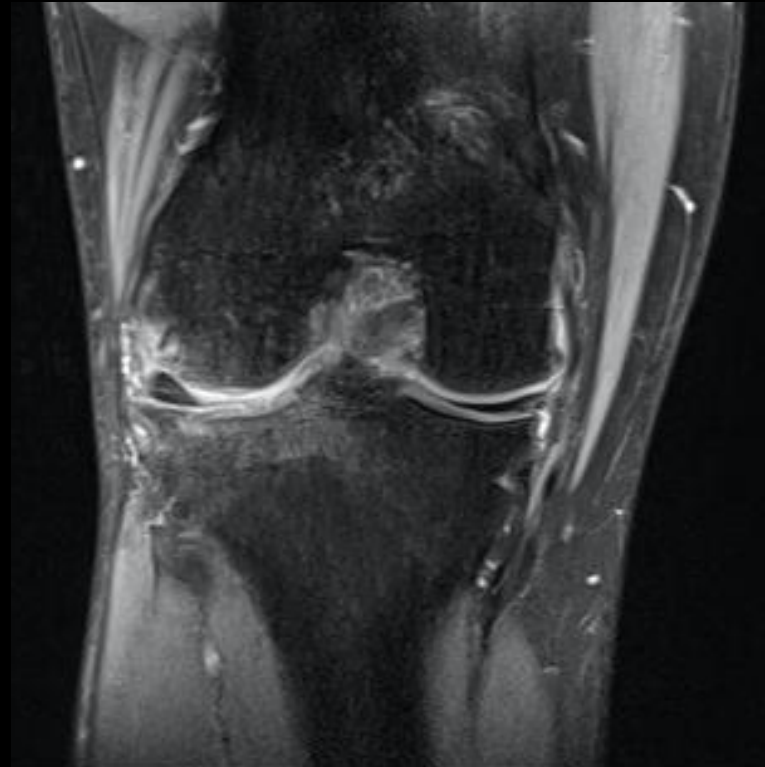


32 yo professional football





32 yo prof. football: 3 months





32 yo prof. football: 3 months



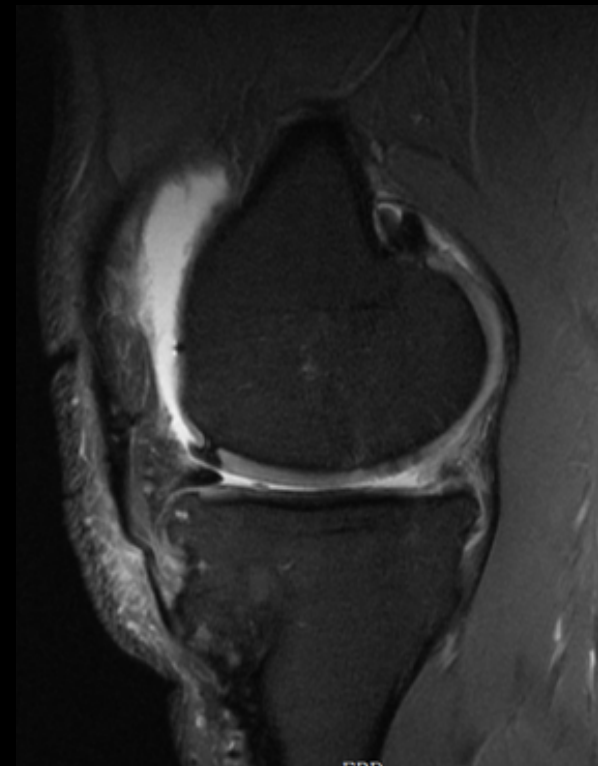
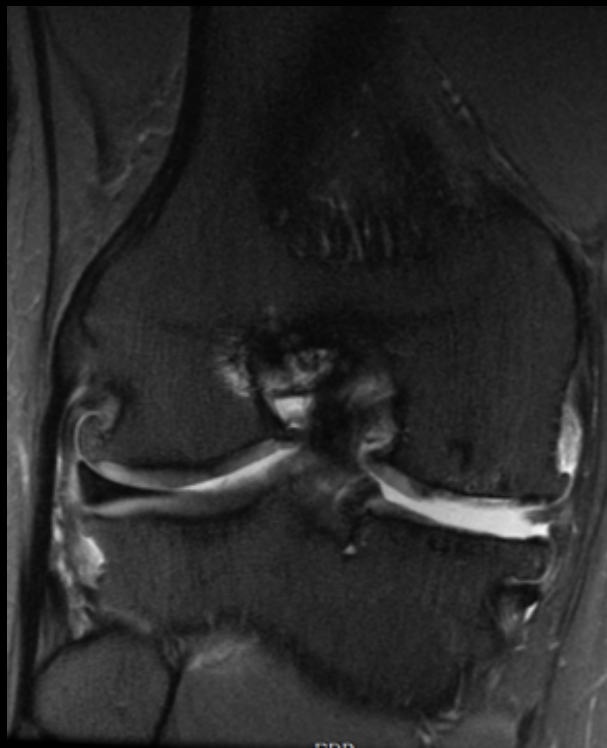
# 32 yo professional football

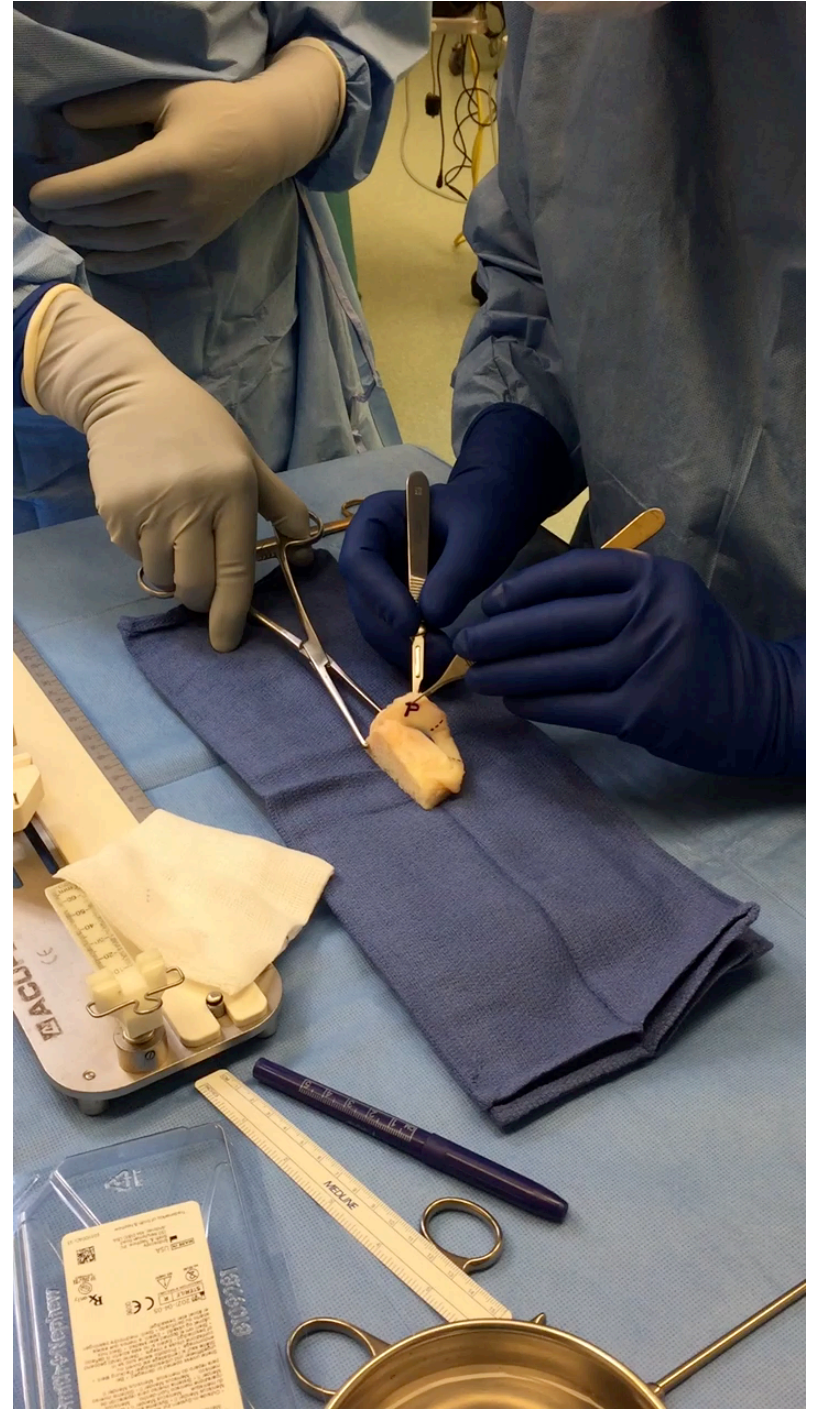
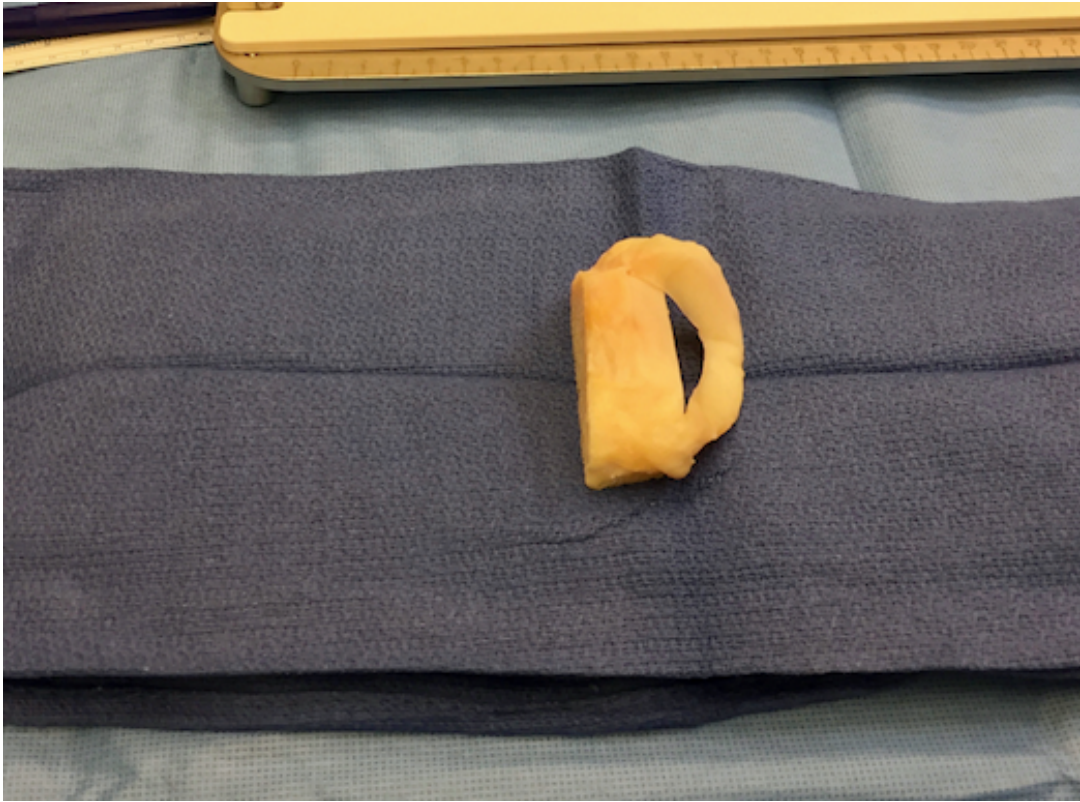
- Excellent evolution
- Pain and swelling decreased
- Went back to play 5 months

**Bur for how long time?**

# 32 yo male

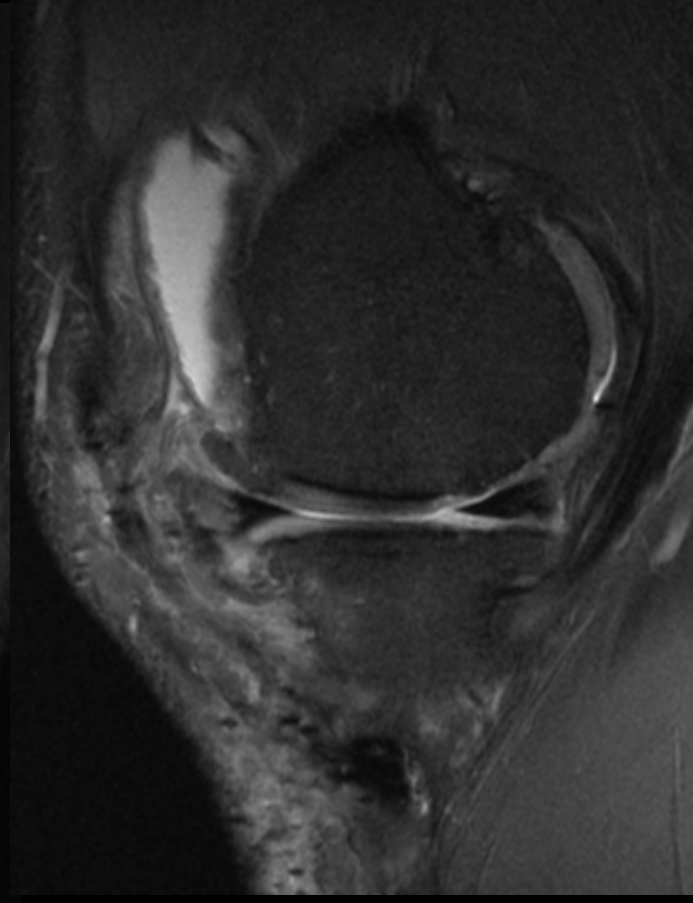
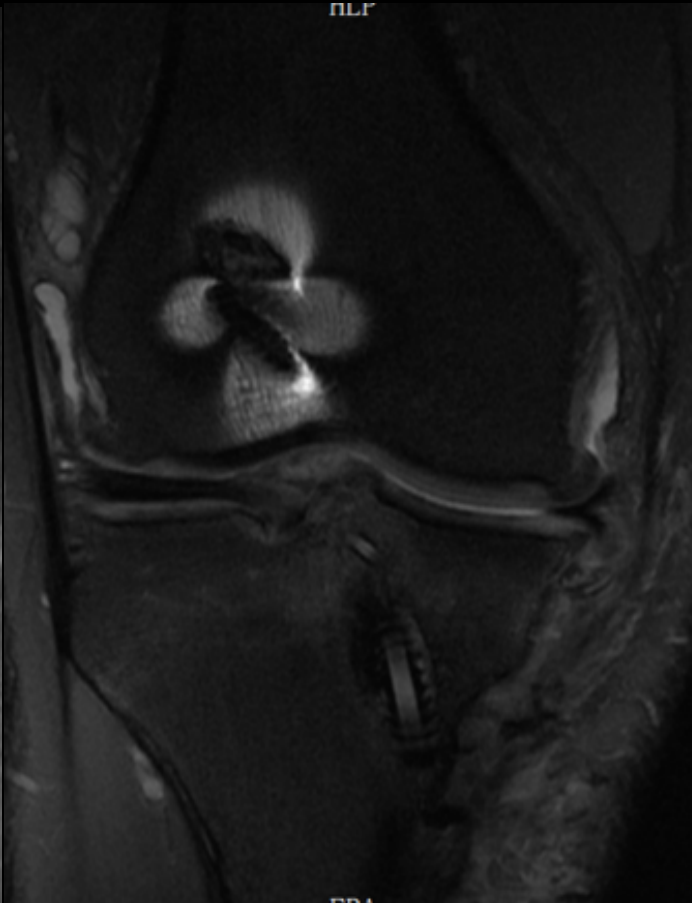
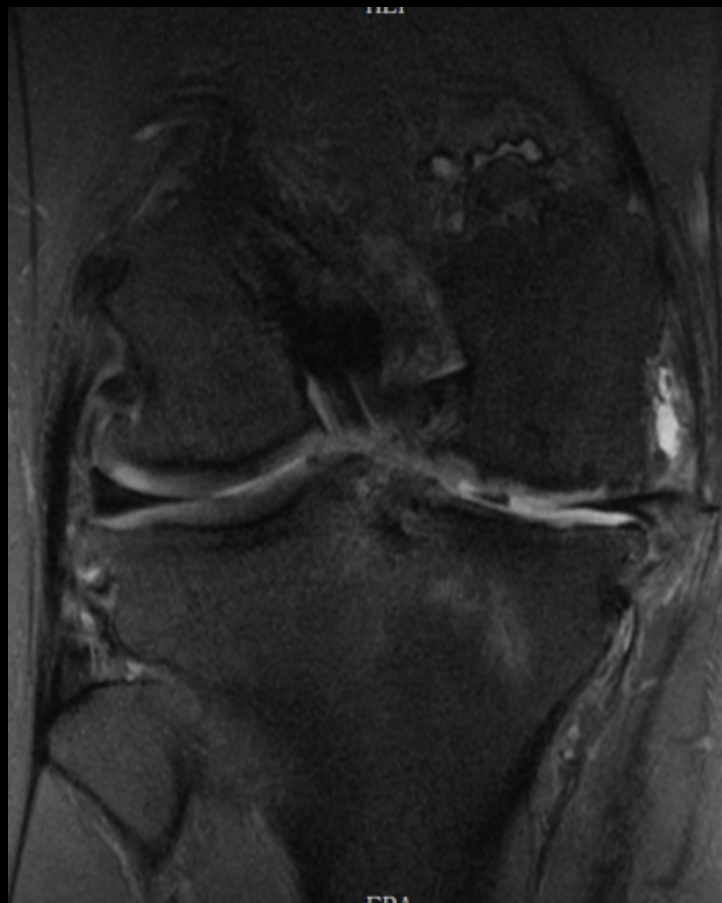
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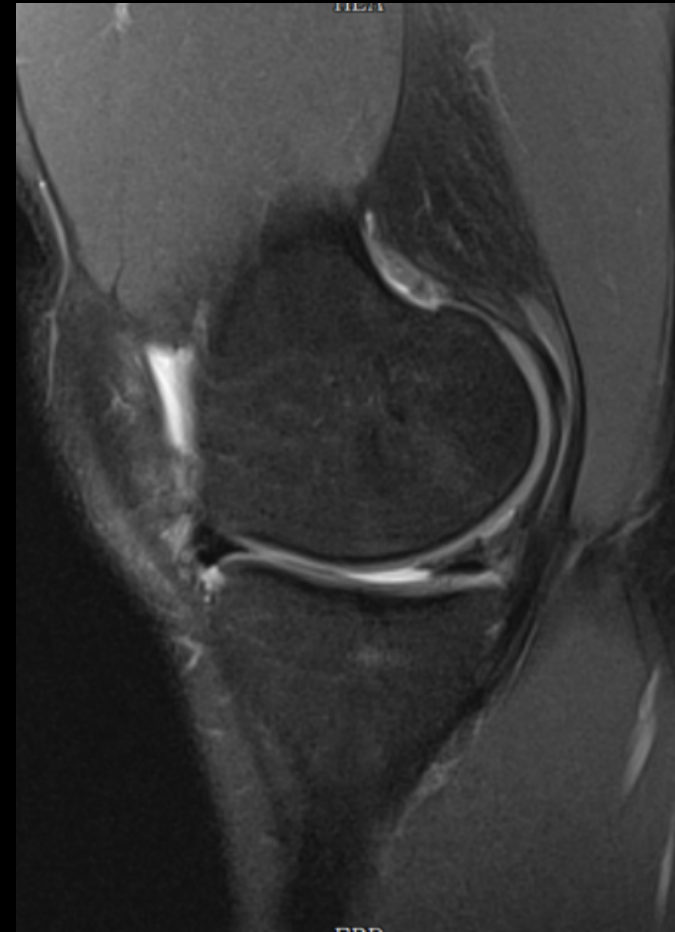
**6 months**



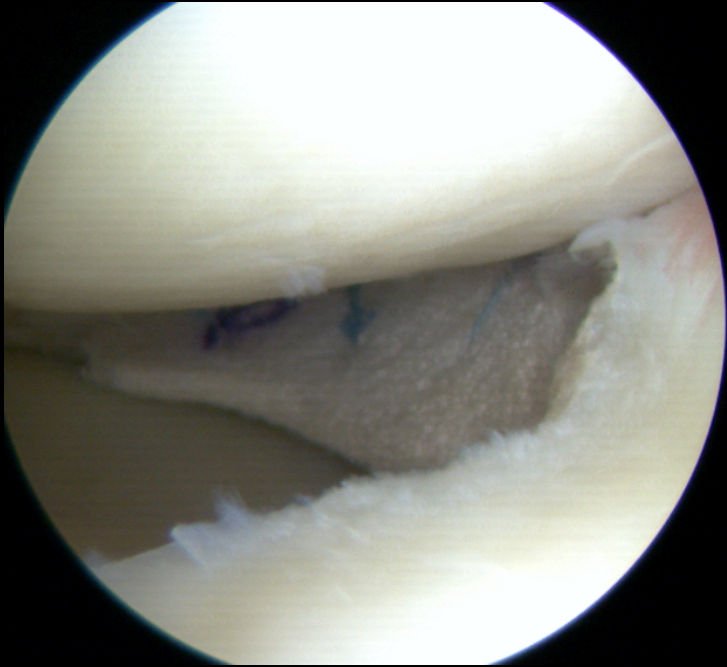
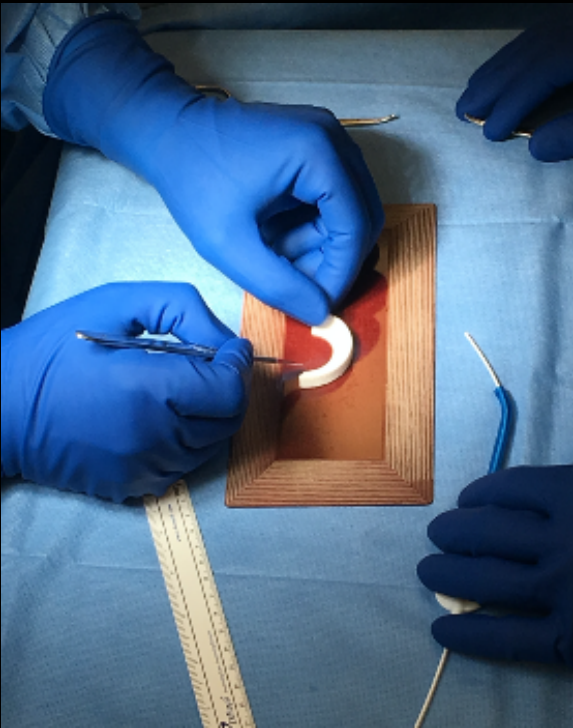
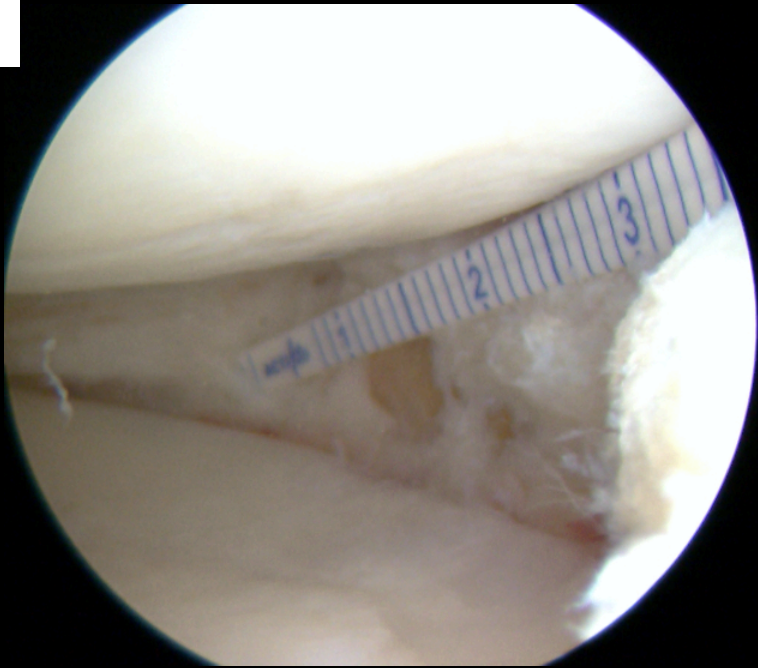
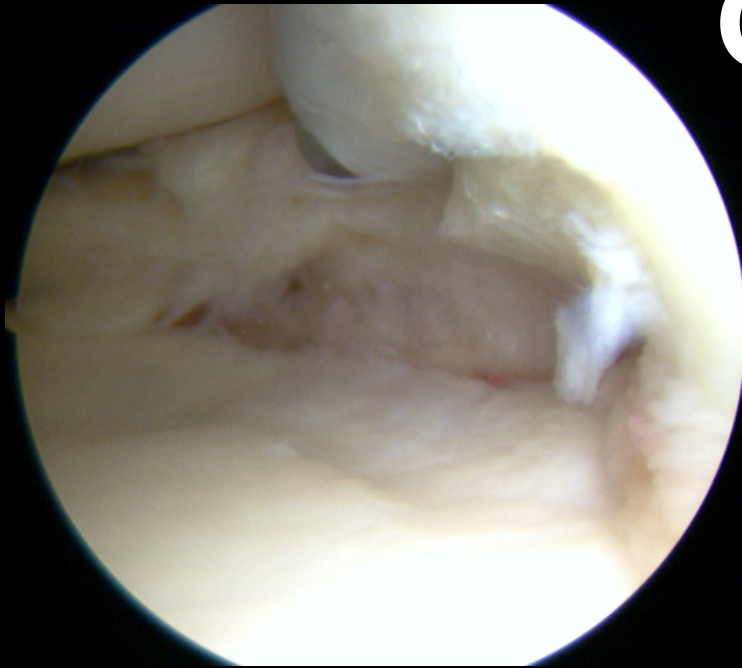
# Combined techniques

- Malalignment
- and meniscus/cartilage deficit

**30 y.o.**



# CMI





**+ HTO**



# Take home message

- Surgery is not the first line of treatment
- Patient information is crucial
- HTO is still an excellent tool to treat patients if indicated
- Cartilage or/and meniscus must be addressed.
- There is no strong evidence and it is a case by case approach

# Thank you

