



# Conservative treatment of ACL rupture , diagnostic tools .

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# ICONE



# Disclosure

No conflicts in regard to this topic.  
All research expenses and equipment  
with health care money .



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# J Arthroscopy 2005

- 35 Years of Follow-up of Anterior Cruciate Ligament–Deficient Knees in High-Level Athletes ( Olympic athletes former DDR )
- Wolfgang Nebelung, M.D., and Heinz Wuschech, M.D.
- **Purpose: The incidence and progression of osteoarthritis over a time period of 35 years**



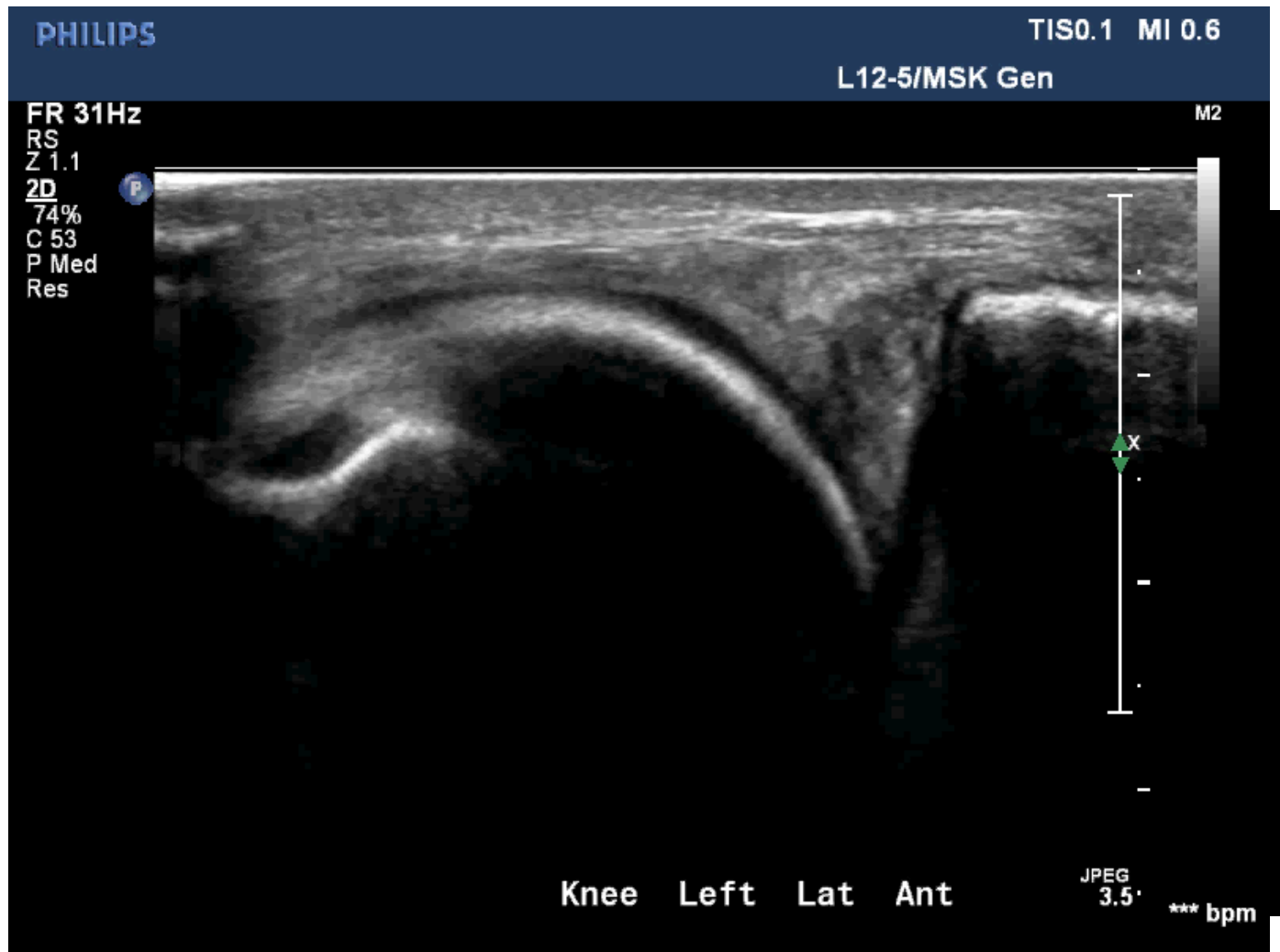
# Cochrane Database Syst Rev. 2005

- **Surgical versus conservative interventions for anterior cruciate ligament ruptures in adults.**
- [Linko E](#), [Harilainen A](#), [Malmivaara A](#), [Seitsalo S](#).
- There is insufficient evidence from randomised trials to determine whether surgery or conservative management was best for ACL injury in the 1980s, and no evidence to inform current practice.

# NEJM 2010

- Frobell RT Acute ACL tears
- 62 early reconstruction
- 59 primary rehab > possible delayed surgery
  - 23 subsequent surgery
  - 36 no surgery
- Conclusion , No difference , so maybe first try conservative treatment ( to decrease costs)

# Knee ACL / sec meniscus Dynamic diagnostics



# Decision making in ACL R

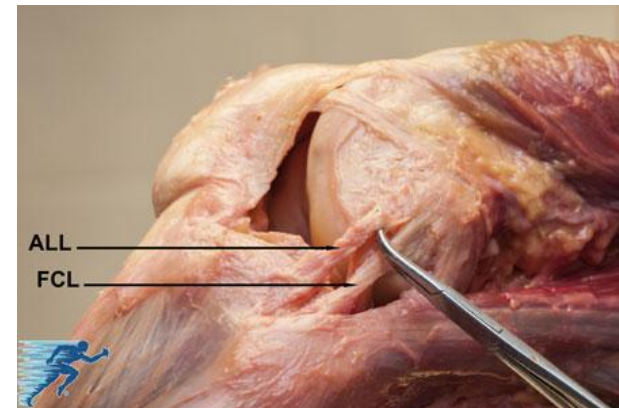
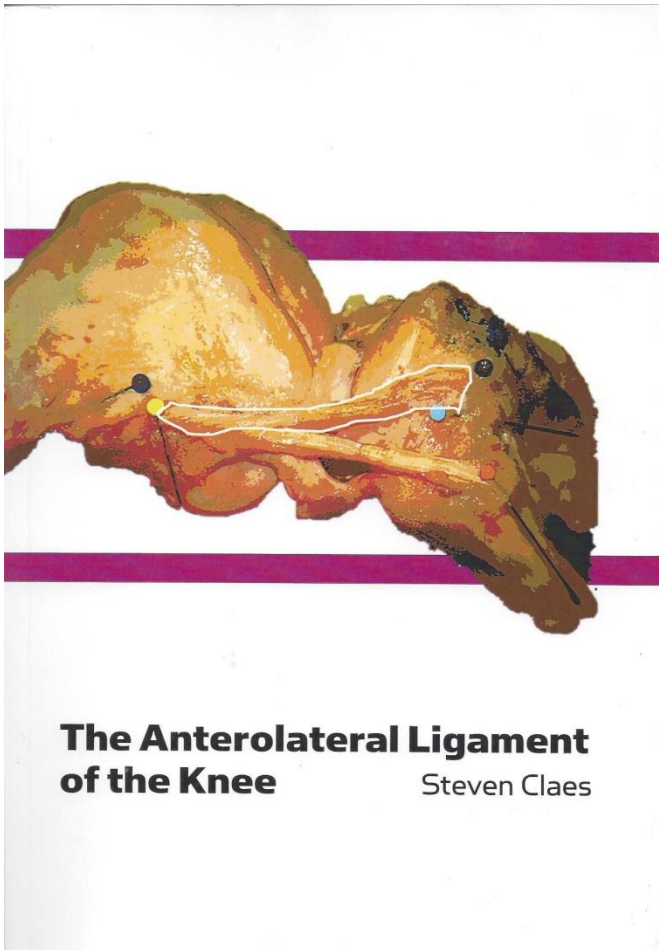
- Age                      Young / old    Young more failures
- Timing of surgery    Subacute /
- Activity level
- Profession            Sportsman / MD
- Demands / desires    Skiing ?
- Weigth                No evidence ?
- Sports type            Team sports ?
- Health conditions    Cor bypass ?
- Risk factors          Diabetes / Smoking ?

# Conservative vs Operative

- Depending on other secondary pathology ?
- Meniscus tear/ repairability.
- Collateral damage PL / ALL / medial .
- Discussion on collaterals ..



# ALL ligament ?



# Age and ACL R Partial rupture ?



# Ultrasound case



# Ultrasound positions

## Flexion

Parapatellair > ACL notch  
anterior meniscus  
Segond Lesion  
Lat tibia Plateau

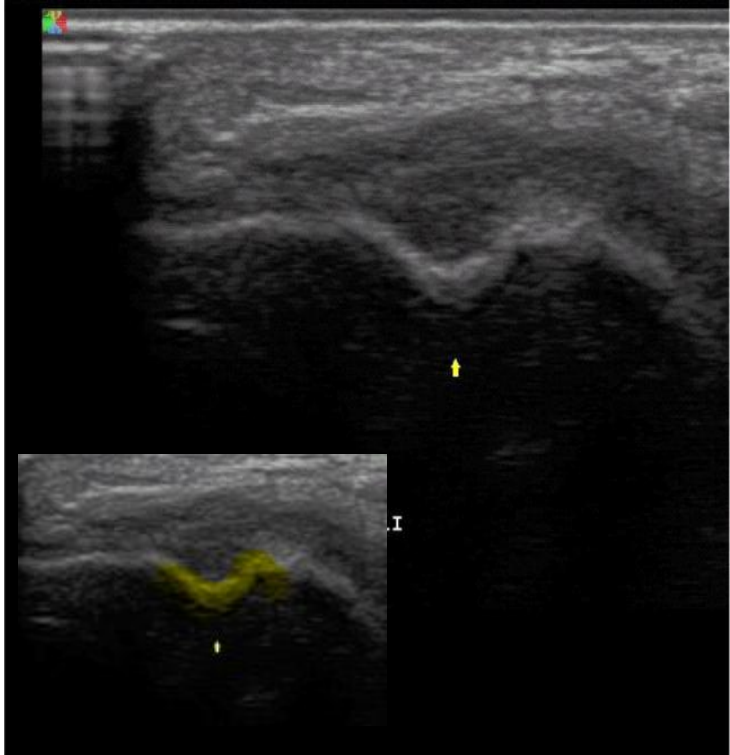
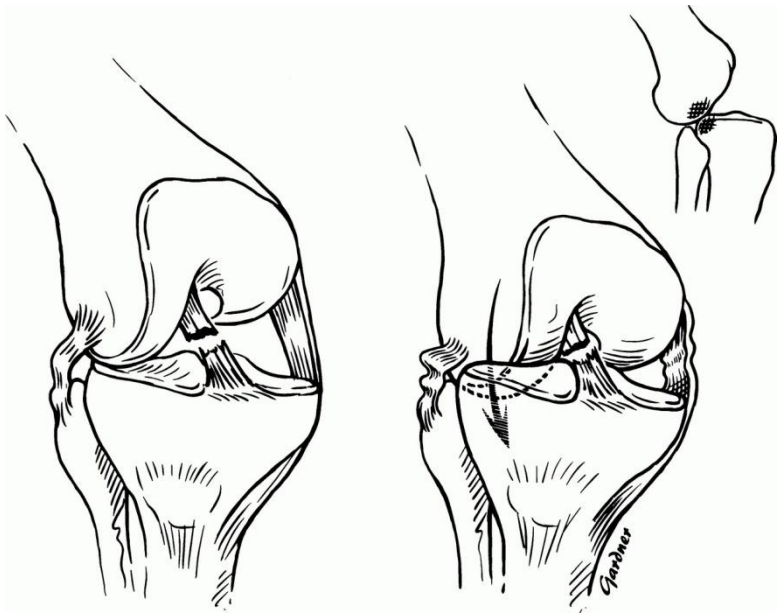


## Prone Posterior

Posterior meniscus  
PCL

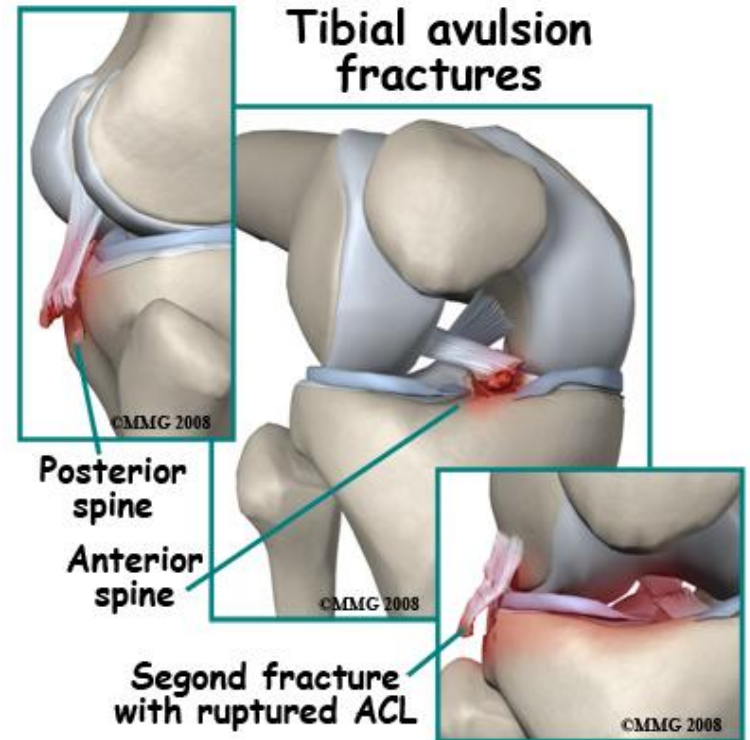
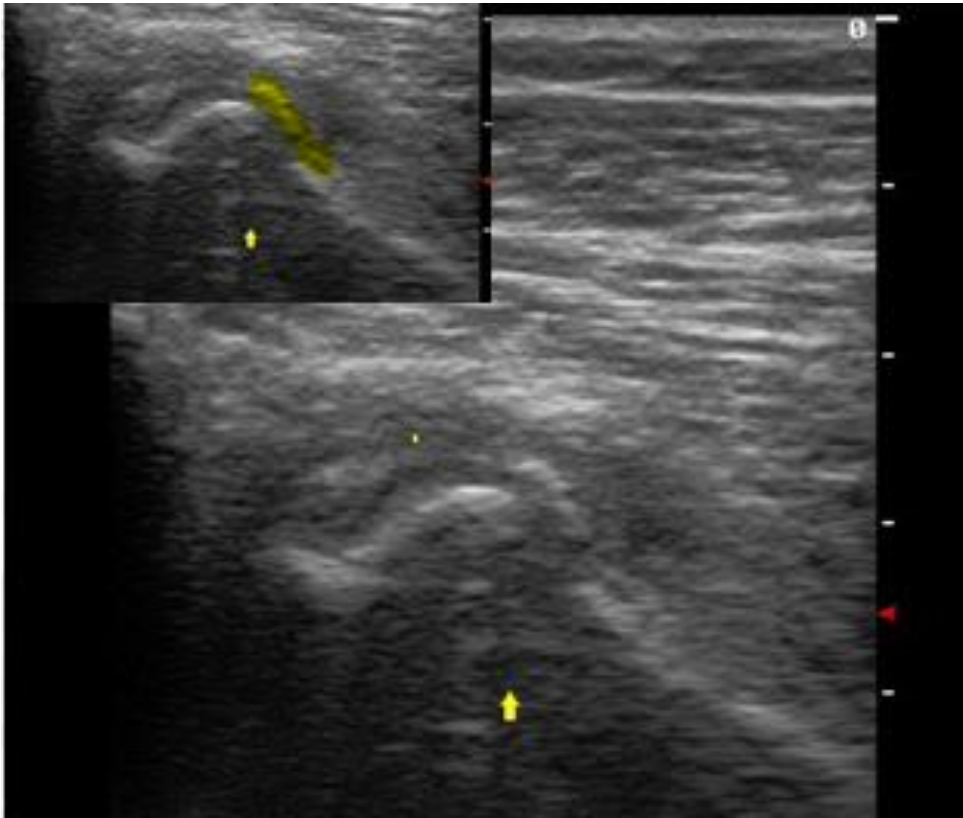


# Lateral notch impression

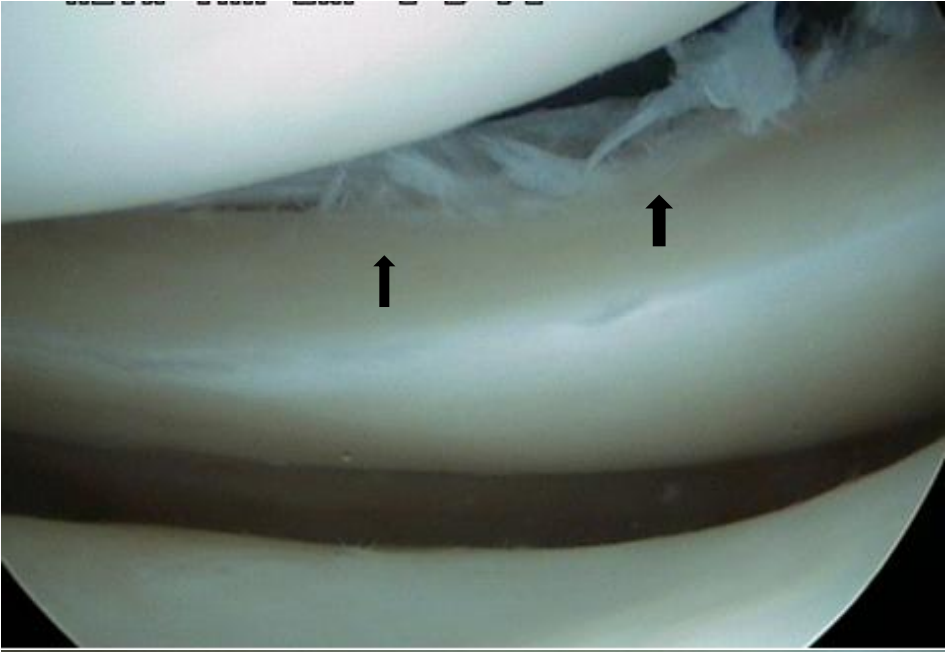


# Bone lesions

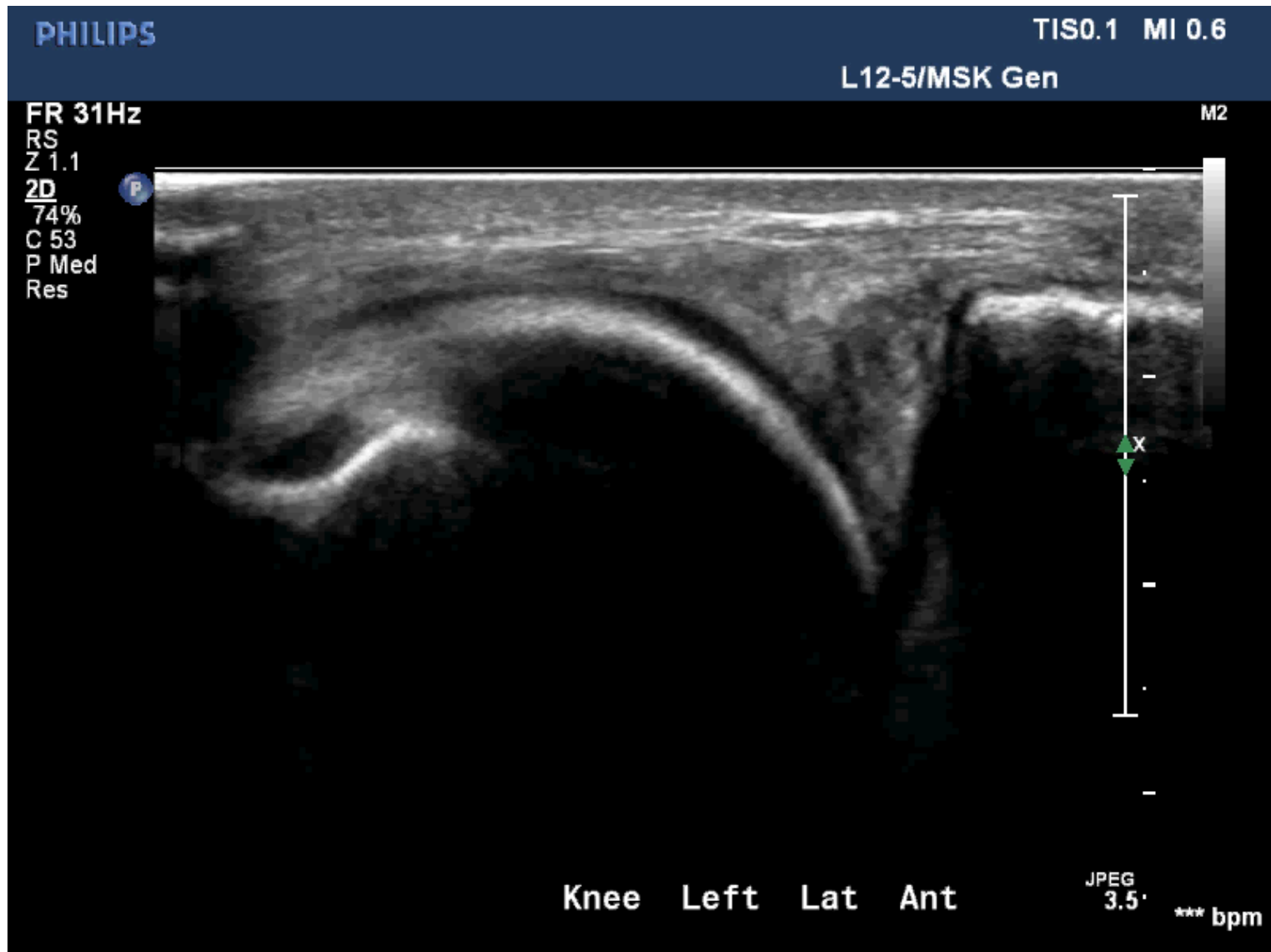
- + Segond fracture
- + Lateral tibia plateau posterior avulsion
- + Lateral femoral condyle impression



- **Meniscal injury**  
**Meniscal tear**



# Dynamische echografie laterale meniscus letsel





# Meniscus ultrasound

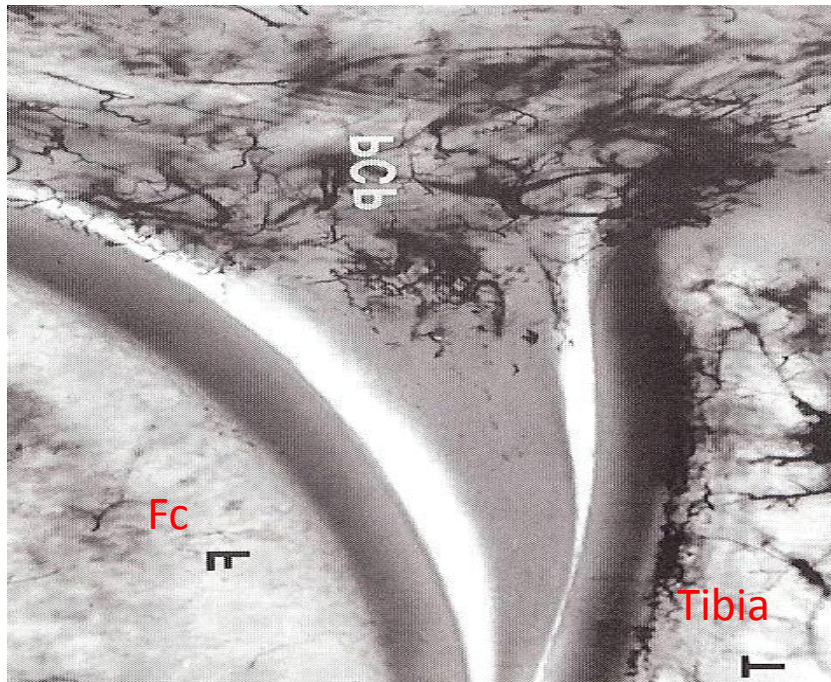
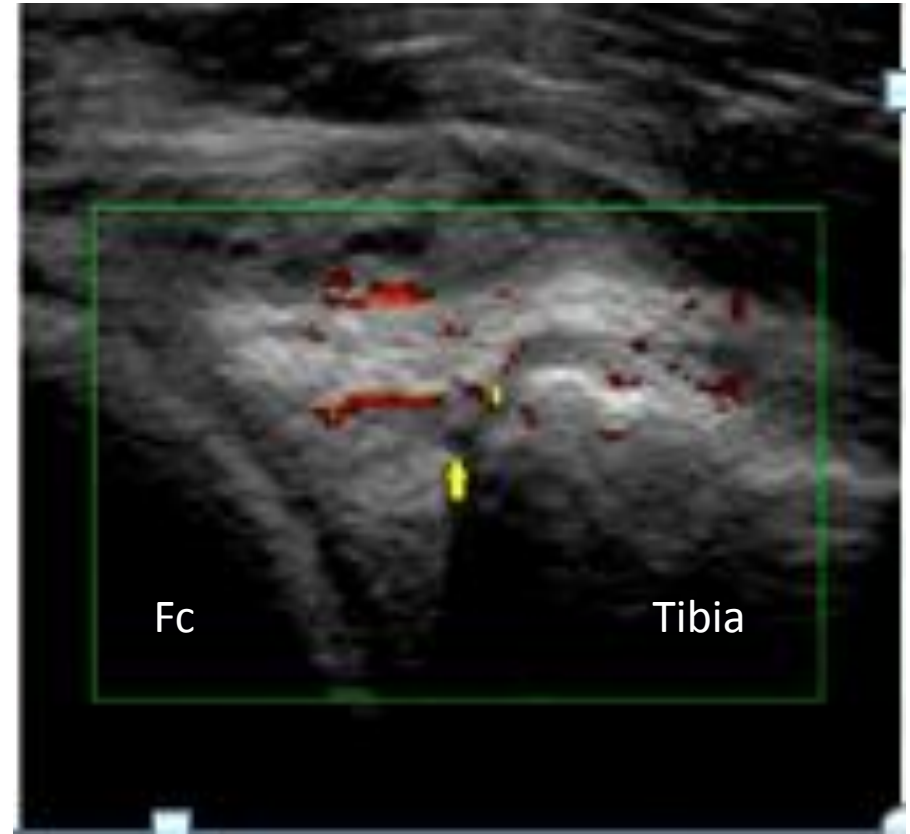
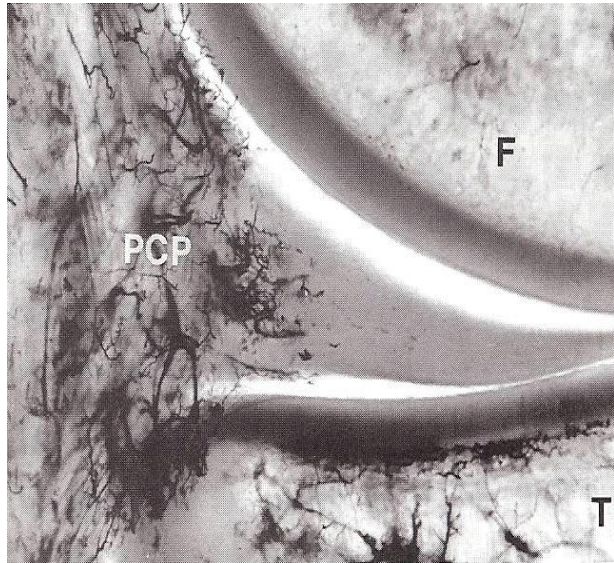


You tube images



Ultrasound Firm

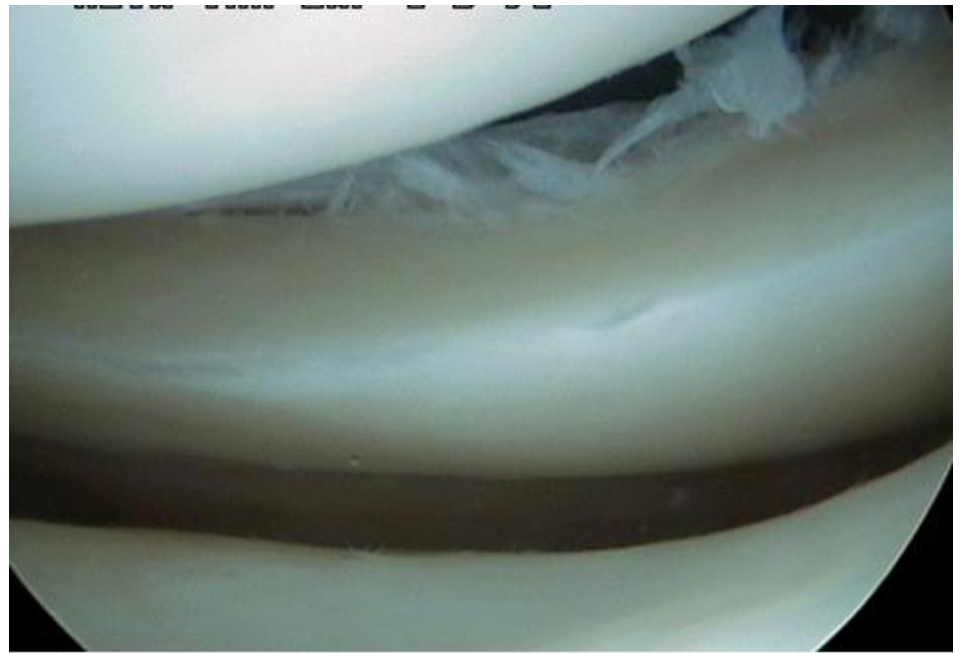
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## Reparability of Meniscal Tears

MRI is not an effective or efficient tool for predicting reparability.  
AJSM 12-2010

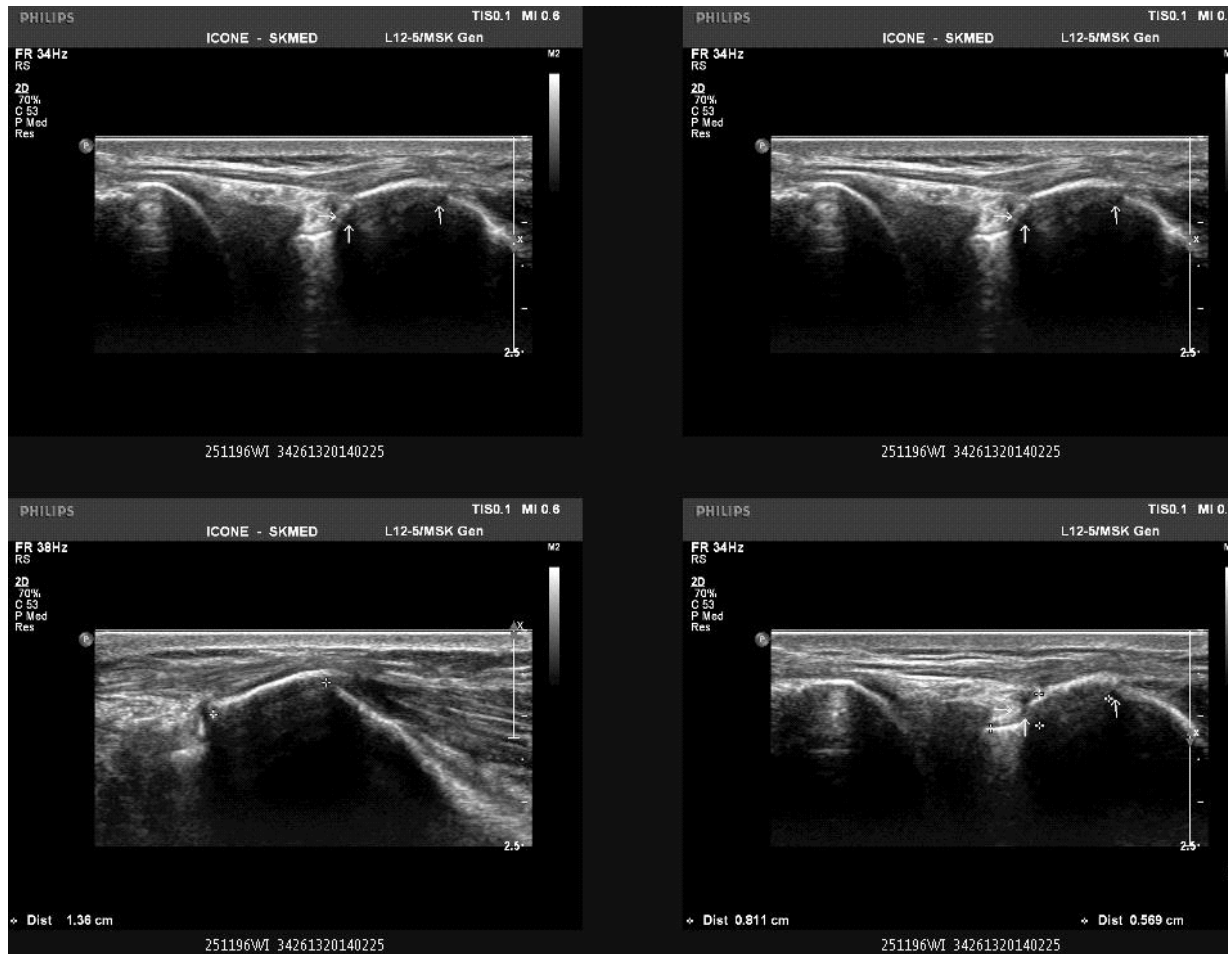
# Meniscal tear static



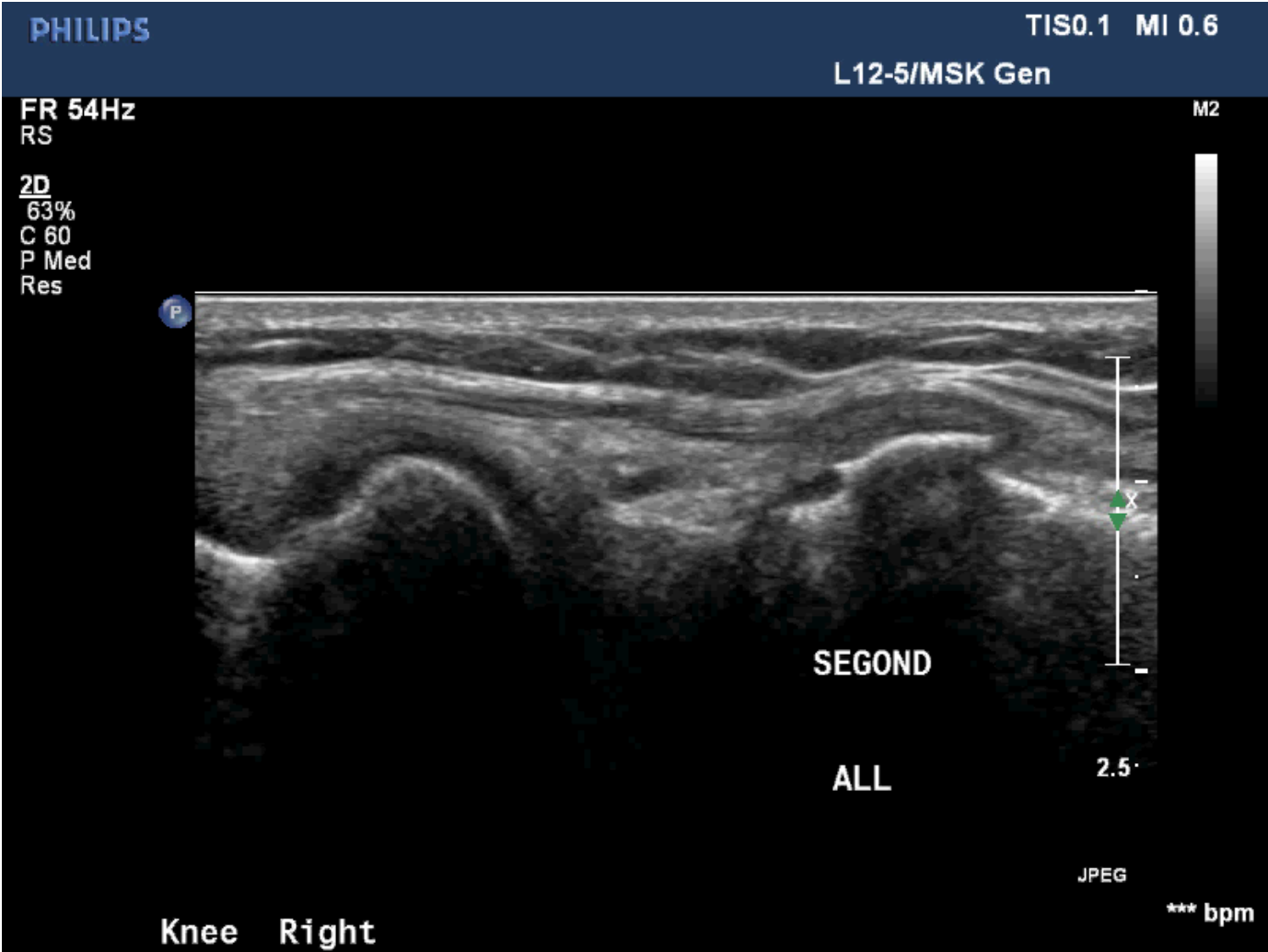
# US relation with Segond #



# US static / dynamic



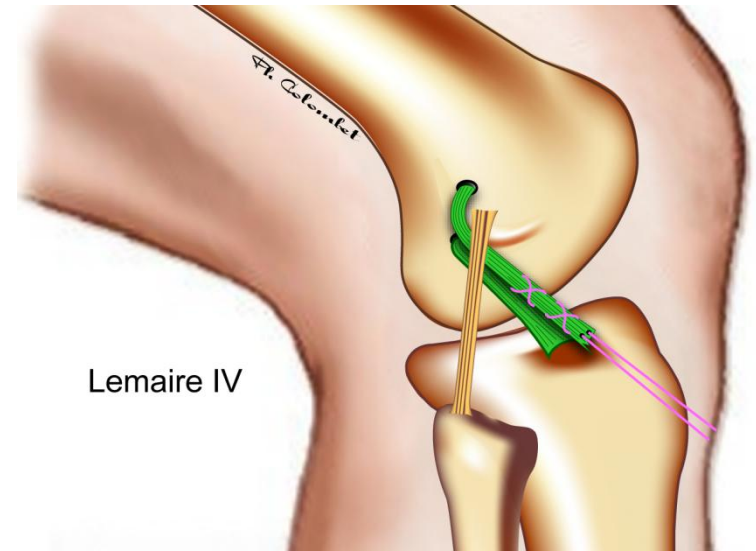
# US ALL ligament and Segond #



# Refixing ALL / Segond



# Preoperative imaging





# Conclusion

- Conservative treatment is possible if you are monitoring the secondary restraints correctly .
- In order to monitor the secondary restraints high resolution dynamic ultrasound is an alternative for MRI .
- If saving the meniscus is the goal ACL R is the better option in patients with primary or secondary meniscus lesions .