



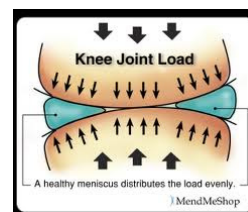
Burt Klos MD PhD
Stephan Konijnenberg MD

Meniscus rehabilitation



Meniscus lesions

- Conservative treatment
 - Operative treatment
 - Meniscal repair
-
- Important factors
 - Ligamentous lesions
 - Cartilage lesions / involvement



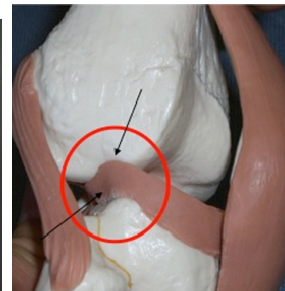
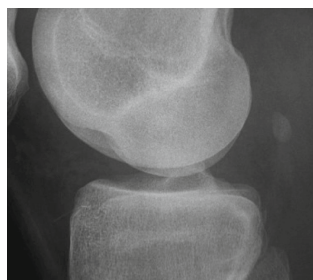
Social media

- Suarez scoring within 4 wks after surgery



Important factors

- Coordination
- Swelling
- Muscle status
- Motivation
- Other injuries

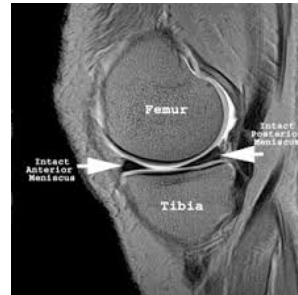


Imaging

MRI

Sequential imaging

Dynamic imaging

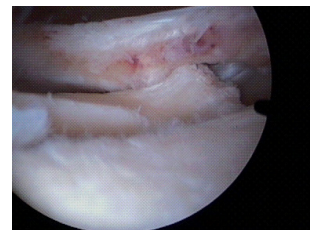
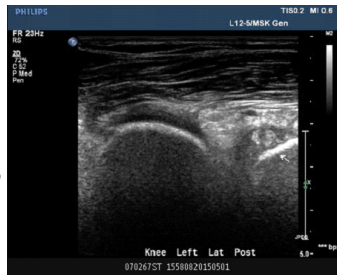


Ultrasound

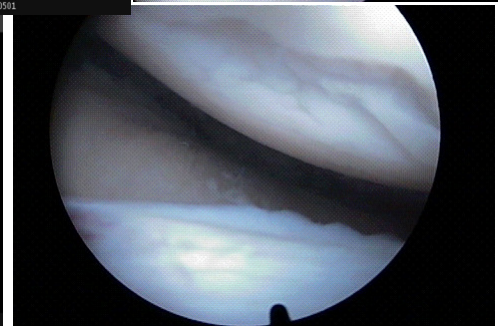
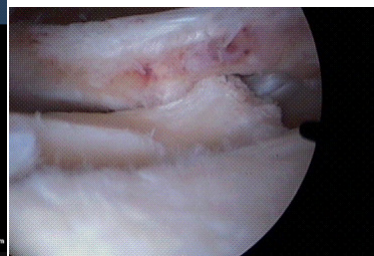
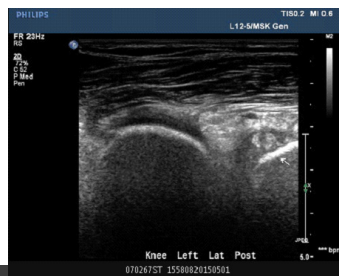
Dynamic !

Pes anserinus

Injection



Meniscus US > Arthroscopy



Dynamic ultrasound lateral meniscus lesion



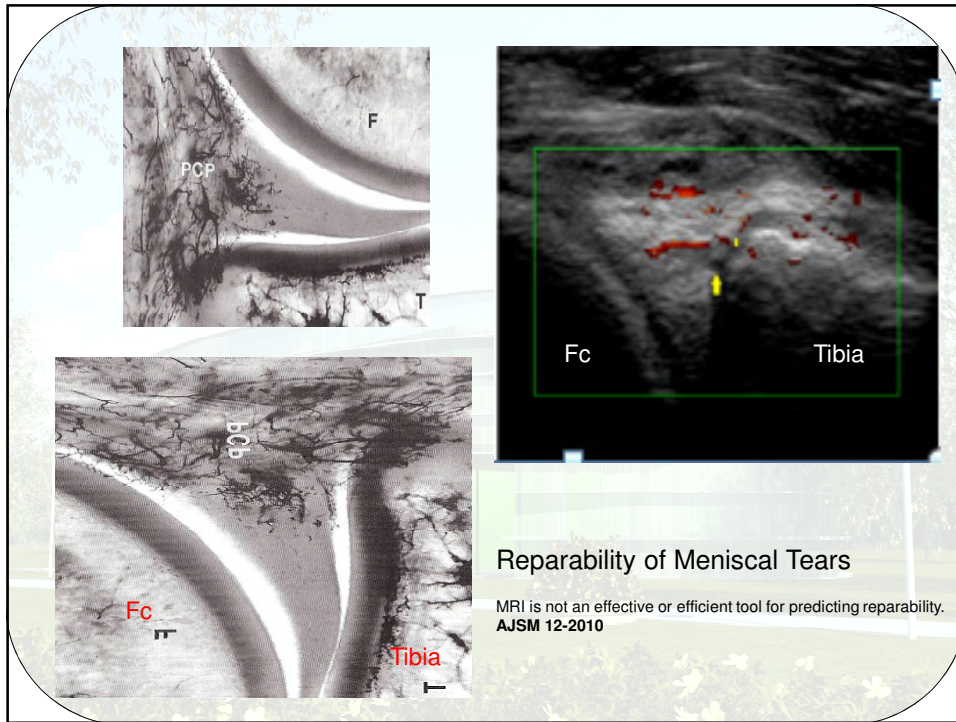
Meniscus ultrasound



You tube images

Ultrasound Firm

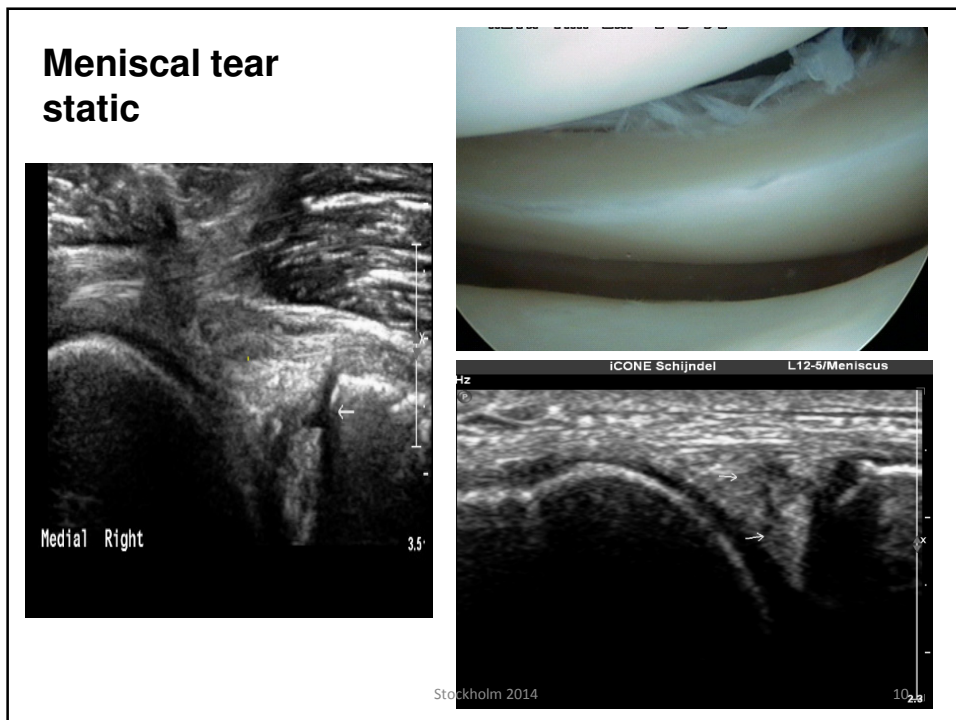
ICONE



Reparability of Meniscal Tears

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

Meniscal tear static



Medial Right 3.5

ICONE Schijndel L12-5/Meniscus

Stockholm 2014 10.2

Tourniquet

- No differences in outcome for
 - Effusion
 - Recovery time
 - Muscle weakness
 - Patient satisfaction

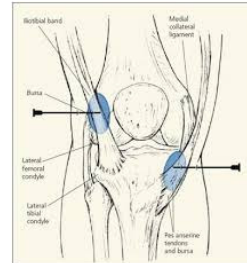
Swelling

- Cooling ice application
- Medication (NSAID)
- Reduce flexion first days
- IA injections (corticosteroid / epinephrine/lidocaine /NSAID)



Postoperative imaging

- Meniscus residual lesions ?
- Pes anserinus ?
- Healing repaired meniscus ?
- For these conditions MRI is not helpful in the short term (0-3 months)
- We use dynamic HR ultrasound if there is any problem in rehab .



Meniscus repair protocol

- 4 wk bracing (0-60 / 0-70/ 0-80/ 0-90)
- 2 wk crutches / depending on swelling and extension .
- 1 wk anticoagulans (LMWH)
- Biking
- No squatting / no weightbaring
- in flexion .



Return to play testing

- Video return to play



Conclusion

- Little science in rehabilitation .
- No consensus for prevention of swelling / improved rehabilitation with
 - Supervised Physical Therapy .
 - IA injection / use of tourniquet .
 - NE muscular stimulation .
- Consensus on prevention of early flexion and weightbearing .



Athletes don't mind research

- Return to play ?
- Use of EM stimulation ?
- We need more data / feedback to convince :
- Ourselves /The Athletes / The Coaches / The managers

