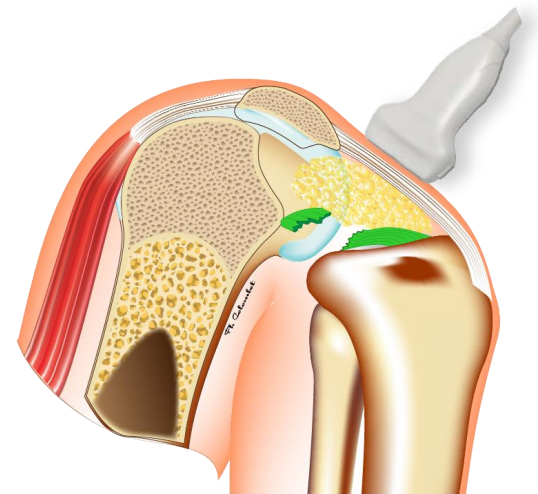


Dynamic ultrasound imaging in ACL lesions and preoperative decision making

Burt Klos

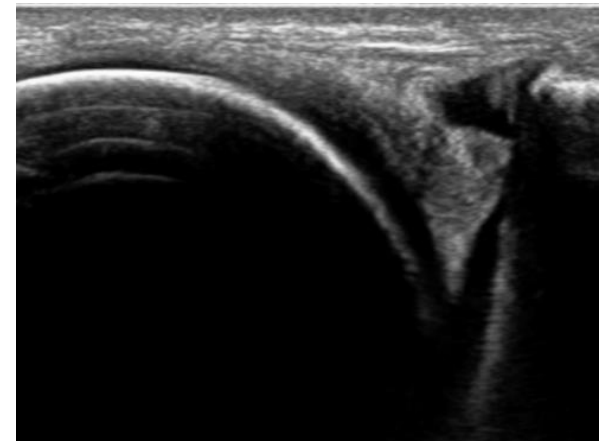
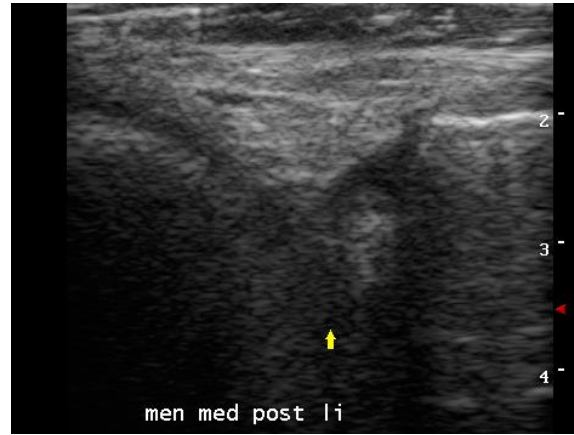
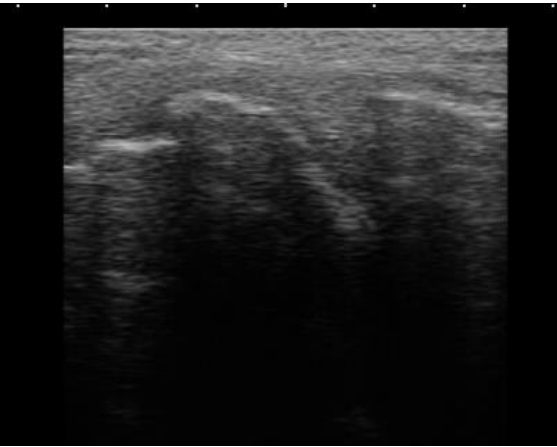
The Netherlands

WWW.ICONE.NL

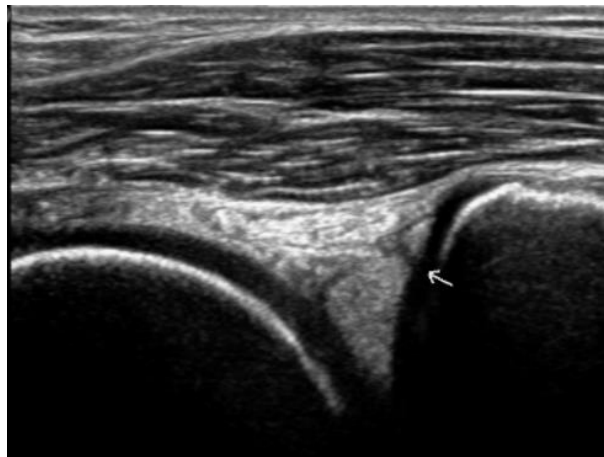


Improvements image quality

2006-2008 2008-2010 2011-2014



2015-
2018



HR Dynamic Ultrasound

- Meniscus video



In flexion

- Anterior meniscus
- ACL
- Bone lesions

Prone

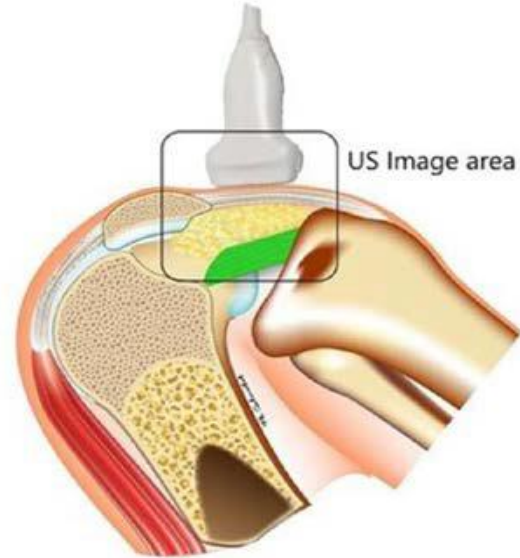
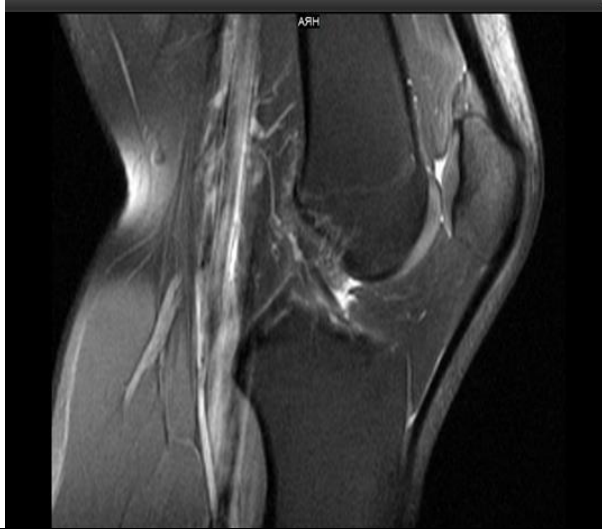
- Posterior meniscus
- PCL



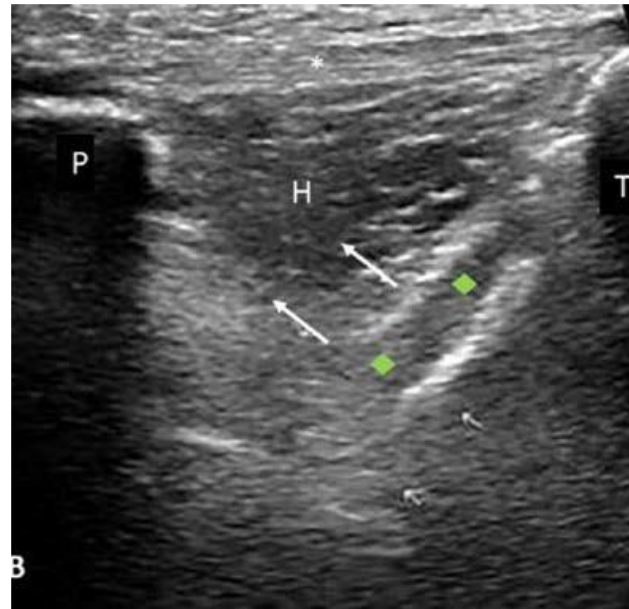
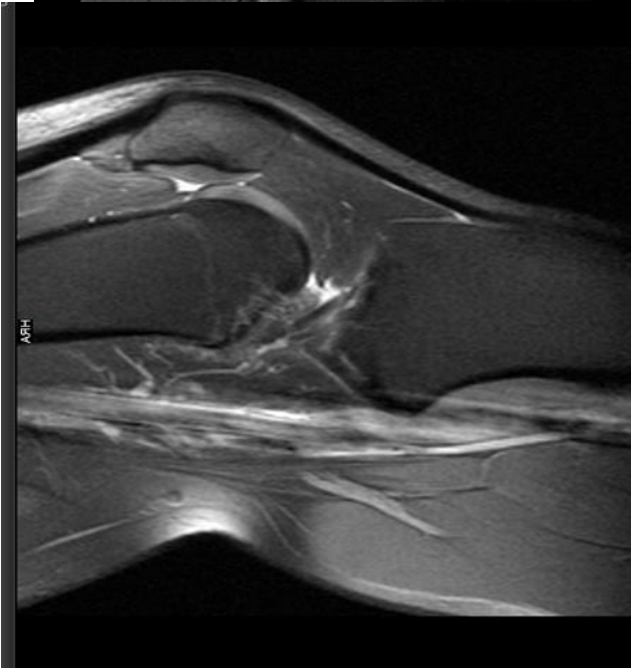
ICONE



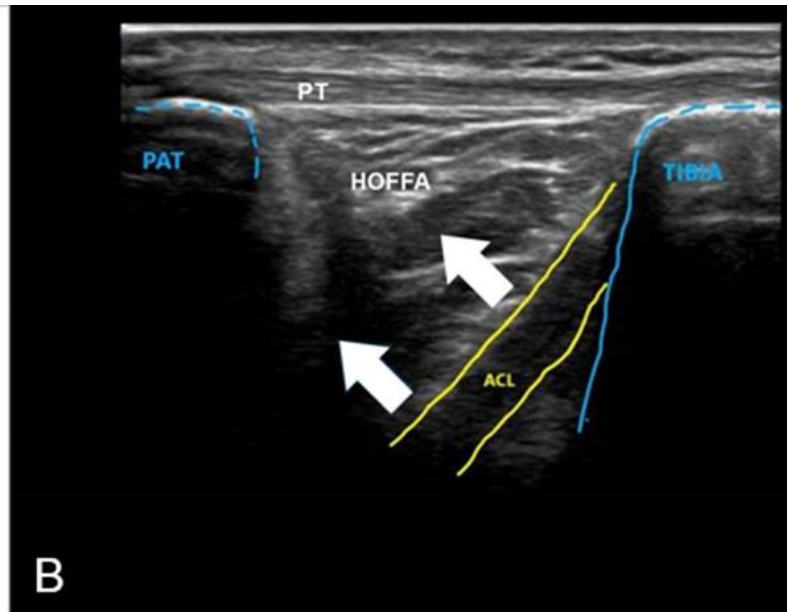
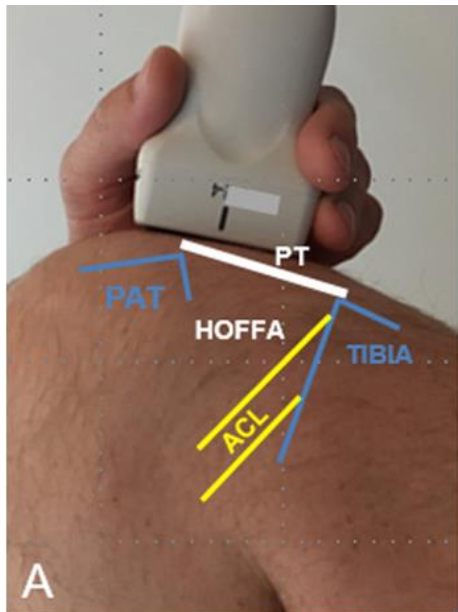
MRI/MSU intact ACL ?

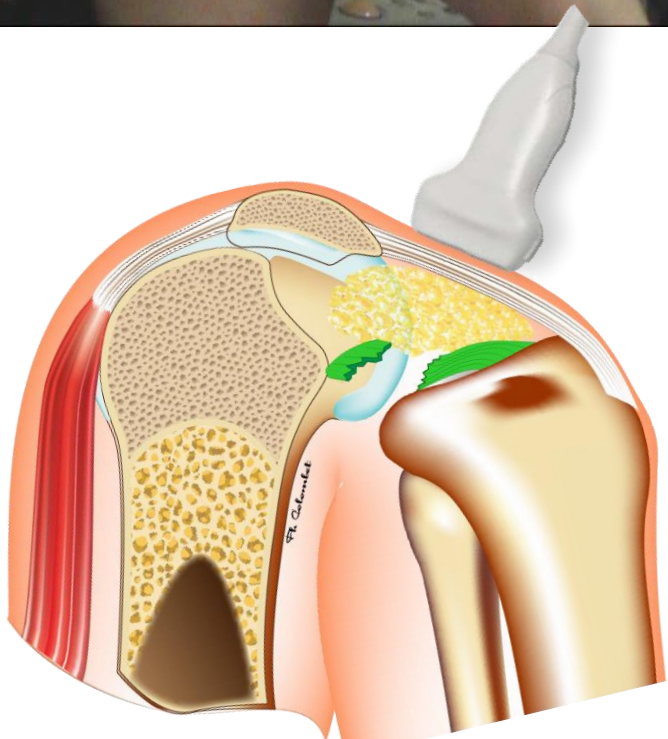


A



Direct visual ACL





**Diagnostic *accuracy of dynamic*
ultrasound imaging in partial and
complete anterior cruciate ligament
tears: a retrospective study in
247 patients**

Manon Breukers,^{1,2} Dorieke Haase,^{1,2} Stephan Konijnenberg,² Tiburtius V S Klos,²
Geert-Jan Dinant,¹ Ramon P G Ottenheijm



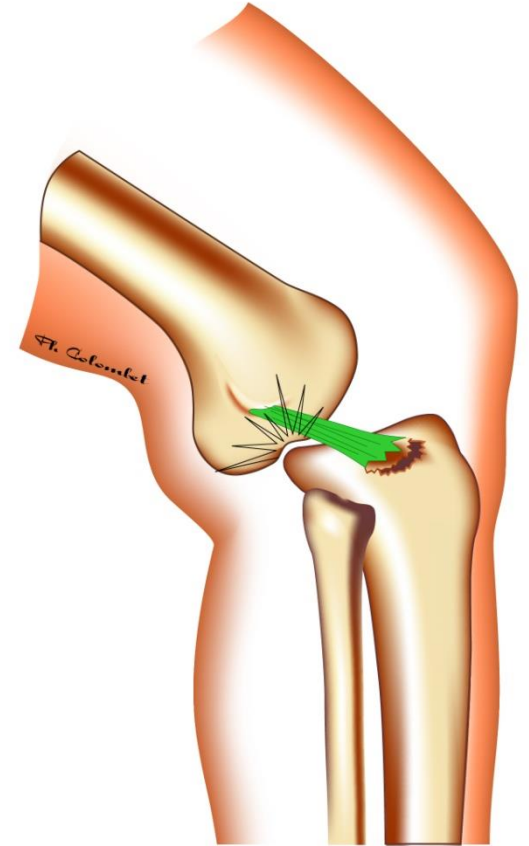
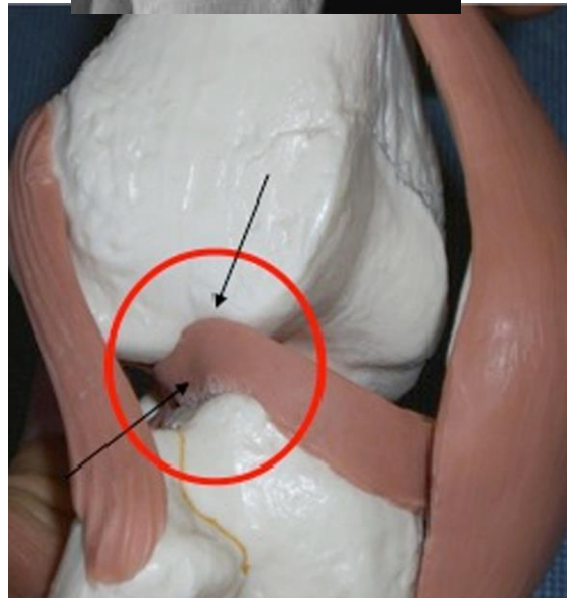
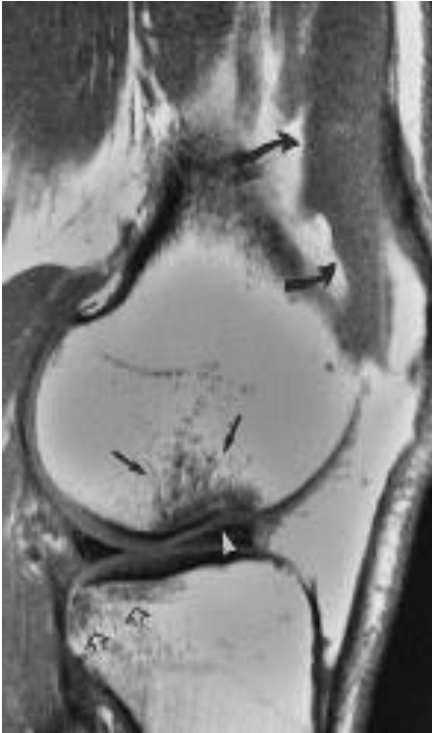
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December 2019

247 Ultrasound / Arthroscopy

- 95/ 108 Ultrasound confirmation /ACL lesion
- Sensitivity 88 %
- Specificity 92 %
- Partial ACL 60/108 (incl subtotal)
- Sensitivity 52 %
- Specificity 85 %
- MRI
- Sensitivity 87 % (partial 55%)
- Specificity 93 % (partial 75 %)

Combined lesions.



Combined ACL / MM

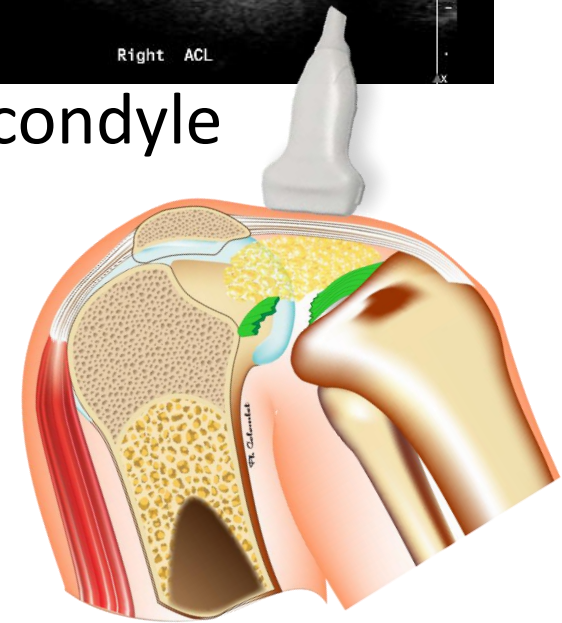
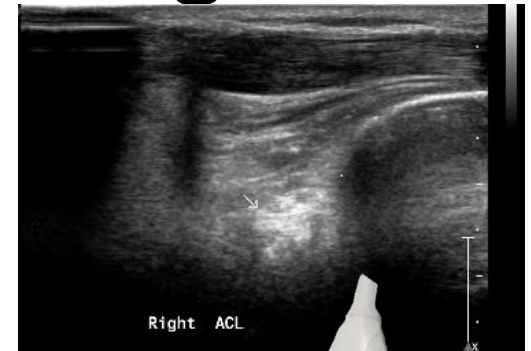


Knee instability



ACL # ultrasound findings

- Anterior findings
 - Cyclops / scar tissue
 - Impaction fracture lateral femoral condyle
- Hyperflexion stress
 - Dynamic resistance / elongation
- Posterior findings
 - Scar tissue PCL
 - Rotation / translation posterior med plateau



Conclusion

- Preoperative MSU vs MRI dynamic possibilities
- Small lesions (avulsion , peripheral meniscus)
- ACL elongation



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